



WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. This instruction sheet should be given to the purchaser. This kit is designed for specific applicable models only. It is not recommended for units other than those for which it was sold.

FEATURES

This new Bombardier snowmobile cover has been carefully manufactured specifically for winter use. It features heavy duty, water resistant, mildew proof canvas with genuine Ski-Doo* graphics and safety ties for trailering.

WARRANTY

This new Bombardier snowmobile cover is guaranteed against defective material and workmanship for one year from the date of its purchase. Should a problem of any kind arise, please contact your authorized Ski-Doo* snowmobile dealer. No warranty card is necessary. **Warranty liability is limited to cover replacement.**

IMPORTANT

Summer Protection

Prolonged exposure to direct sunlight, heat and salt build-up can result in a breakdown of the cotton fibers in the cover. **This cover is not made for outdoor summer storage!**

Proper Care

To clean, hose down the cover thoroughly both inside and out to remove all road salt and dirt. Any soap or bleachless detergent may be used. **Do not machine wash.** Either clothesline dry or allow to dry on the snowmobile. **Do not machine dry.**

Do not store snowmobile in direct sun with this cover on. Either remove cover or shade snowmobile and cover. **A breakdown of dyes and fiber due to prolonged exposure to direct sunlight cannot be warranted.**

PROPER INSTALLATION

1. Drape the cover over the handlebars and onto the hood.
2. From the front of the sled, slip the cover down over the front bumper or ski tips.
3. At the rear of the sled, pull the cover down over the seat.
4. Attach forward buckle wrap to ski. This applies to non ski tip covers only.
5. Attach back buckle and tighten.
6. Thread the middle strap through the suspension, attach to the other side and cinch taught.

NOTE: Make sure gas cap zippered access is closed before trailering.



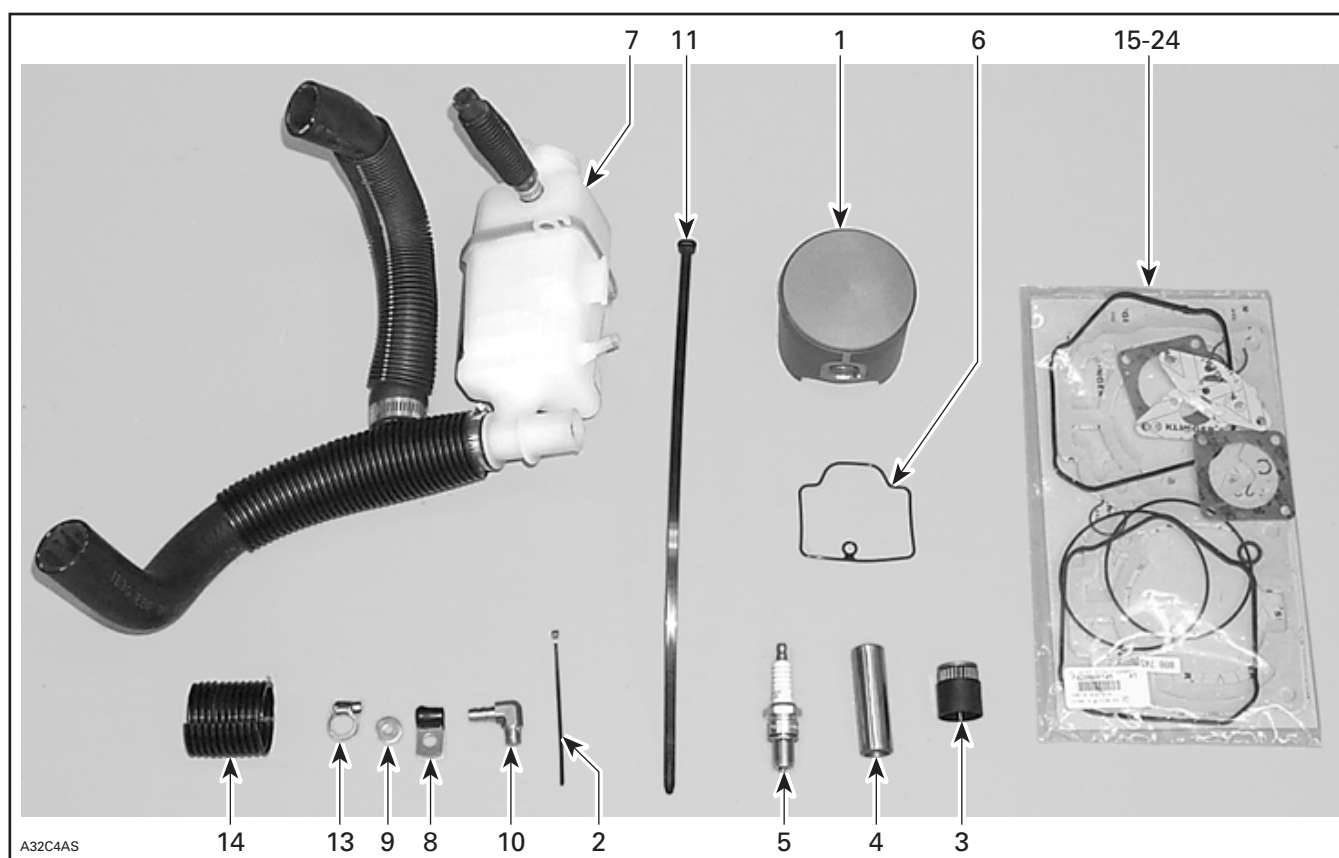
**793 UPDATE KIT
(P/N 590 122 300)**

⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. Torque wrench tightening specifications must strictly be adhered to; refer to table at the end of this document.

NOTE: Installation time is approximately 2.4 hours.

PARTS TO BE INSTALLED



A32C4AS

1. Piston (2)
2. Locking Tie — 130 mm
3. Needle Bearing (cageless) (2)
4. Piston Pin (2)
5. Spark Plug BR9ECS (2)
6. O-Ring (2)
7. Coolant Tank Ass'y
8. Bracket
9. Washer
10. Elbow Fitting
11. Locking Tie — 380 mm
12. Coolant (2 bottles — not shown)
13. Tridon Clamp
14. Hose Protector

Cylinder Gasket Kit Including:

15. Gasket 0.5
16. Gasket 0.6
17. Gasket 0.7
18. Gasket 0.8
19. O-Ring (2)
20. Gasket (2)
21. Rubber Ring (2)
22. Cylinder O-Ring (2)
23. Gasket for Engine Type 793 (2)
24. Circlip (4)

PROCEDURE

Vehicle Preparation

Remove belt guard.
Remove air intake silencer.
Remove tuned pipe.

Coolant Draining

Remove cap from coolant tank and siphon coolant from tank.

Cut locking tie retaining engine inlet hose protector.

Remove and discard hose protector.

Loosen Tridon clamps from coolant tank and unplug engine inlet hose from tank. Siphon coolant.

NOTE: Wipe off any spilled coolant. Discard coolant in accordance to your local laws and regulations.

Loosen Tridon clamp and remove engine inlet hose from engine.

Loosen Tridon clamp at thermostat cover, on engine head, and unplug coolant outlet hose.

Using care, lift coolant tank up and out of oil tank slot.

CAUTION: Take care not to break slot.

Disconnect overflow hose from tank and keep it for further reinstallation.

Remove radiator hose from tank. Do not discard tank (part needed for warranty claim).

Carburetor Cleaning

Remove intake resonator.

Remove carburetors from engine. Lean carburetors backward to release carburetor strap from bracket.

Unplug fuel intake hose.

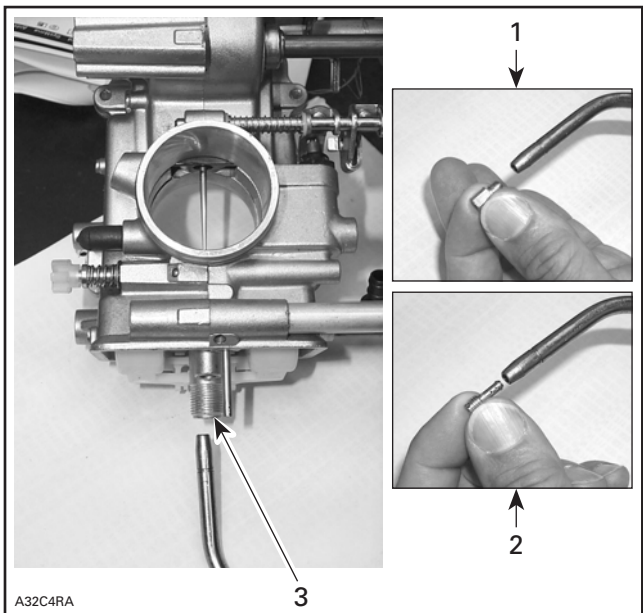
Unscrew drain plugs and drain fuel out of carburetors.

Remove float bowl.

WARNING

Fuel is flammable and explosive. Never smoke or allow flame or spark in vicinity. Always wipe off any fuel spillage from the vehicle.

On each carburetor, remove main jet and pilot jet. Blow compressed air in carburetor components as shown in following picture to remove possible silicone particles.



1. Blow compressed air in main jet
2. Blow compressed air in pilot jet
3. Blow compressed air in needle jet with throttle open

Lift piston valve and blow air in jet ducts.



Clean silicone from float bowl.



Silicone particles may severely alter carburetor operation.

Reinstall jets.

Remove and discard O-ring from float bowl.

Clean float bowl and carburetor in order to remove any silicone.

Install new O-ring **no. 6** on float bowl.

Reinstall float bowl on carburetor.

Reinstall drain plug.

PISTON REPLACEMENT

Cylinder Head

Cut locking tie retaining temperature sensor and unplug sensor harness.

Loosen Tridon clamp under thermostat and unplug hose.

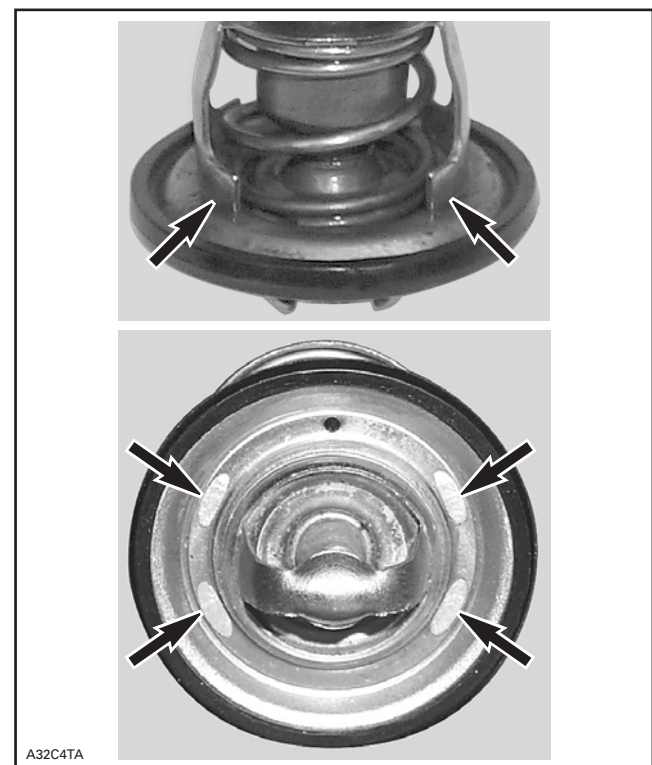
Remove and discard spark plugs. Unscrew and remove cylinder head.

NOTE: Avoid spilling coolant in cylinders and crankcase.

Thermostat Inspection

Remove thermostat outlet socket.

Remove thermostat and visually inspect it for cracks or deformation. Replace with new part (P/N 420 922 515) if cracking or deformation is seen.



INSPECT BOTH SIDES OF THESE TABS

Reinstall thermostat.

Install outlet socket. Coat Taptite screws with Loc-tite 243 and tighten screws to 8 N•m (70 lbf•in).

Cylinders

Drain remaining coolant from cylinders and **discard coolant**.

Loosen bolts retaining cylinders to crankcase.

Remove cylinder bolts. Lift cylinders straight upward with cylinders attached.

Completely soak up remaining coolant to avoid spilling into crankcase.

Remove cylinder gasket. **Note the number of identification holes to replace the gasket with another one of the same thickness.**

Remove exhaust manifold from cylinders.

Remove carburetor bracket bolt from cylinder.

Piston

Place a clean cloth or rubber pad (P/N 529 023 400) over crankcase. then with a pointed tool inserted in piston notch, remove both circlips from piston.

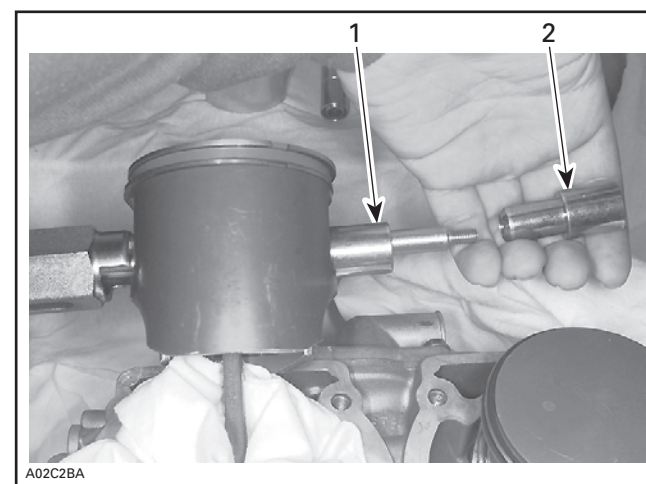
CAUTION: Engines are equipped with cageless bearings.

Use piston pin puller (P/N 529 035 503) along with 20 mm sleeve kit (P/N 529 035 542) and locating sleeve.

NOTE: The locating sleeve is the same that contains new cageless bearing.

Insert piston pin puller (P/N 529 035 503) making sure it sits squarely against piston.

Install sleeve then shouldered sleeve over puller rod.



TYPICAL — INSTALLATION OF SLEEVE KIT

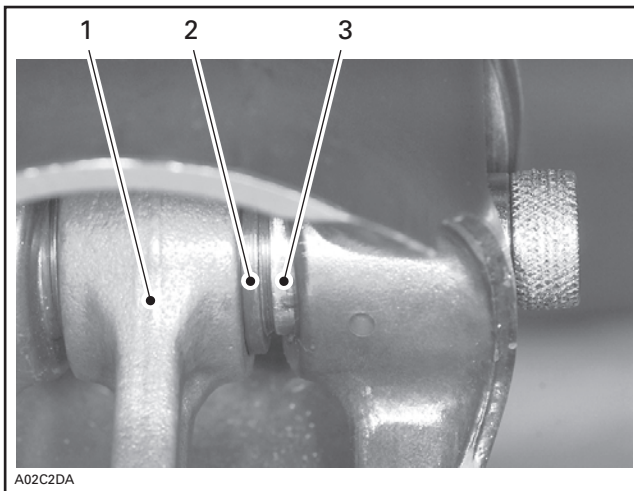
1. Sleeve
2. Shouldered sleeve

Screw (LH threads) extracting nut.

Pull out piston pin by unscrewing puller until shouldered sleeve end is flush with thrust washer of piston pin bearing.



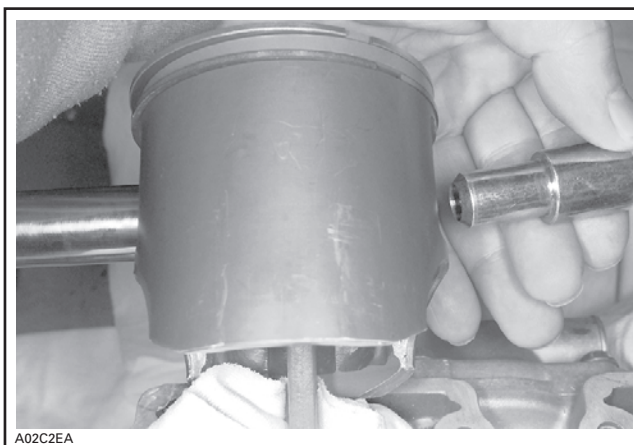
TYPICAL — PISTON PIN EXTRACTION



TYPICAL

1. Sleeve inside bearing
2. Thrust washer
3. Shouldered sleeve end

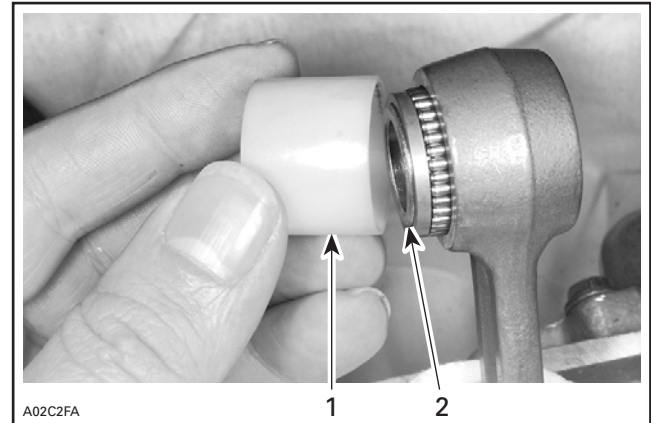
Remove puller. Pull out shouldered sleeve carefully.



TYPICAL

Remove piston from connecting rod.

Install locating sleeve. Then push needle bearings along with thrust washers and sleeve.



TYPICAL

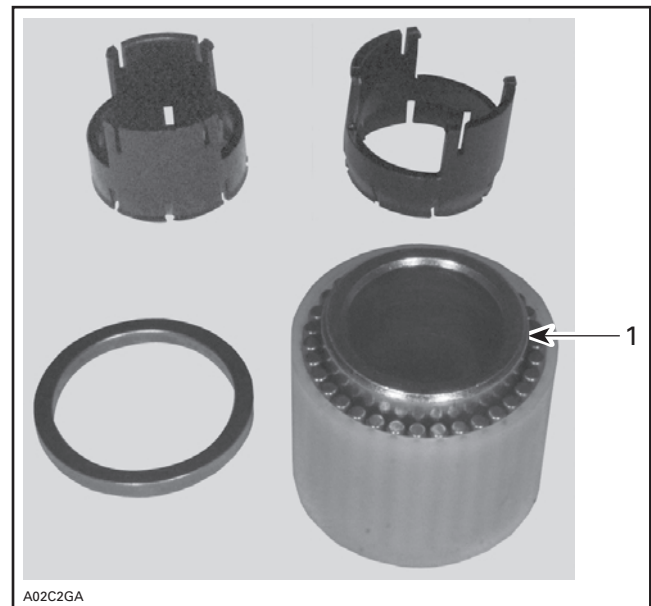
1. Locating sleeve
2. Sleeve

REASSEMBLY

Cylinder Head and Cylinder

When installing a new cageless needle bearing no. 3, replace plastic cages with sleeve.

NOTE: 793 engine type cageless bearings have 28 needles.



TYPICAL

1. Sleeve

Oil needle bearing with injection oil, grease thrust washers and install them on each end of needles. Insert cageless bearing into connecting rod.

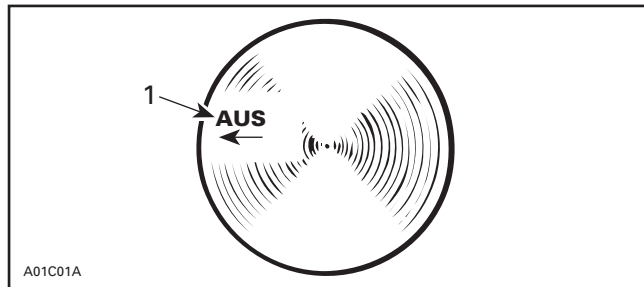


TYPICAL — CAGELESS BEARING AND SLEEVE INSTALLED

Heat piston with a 100 W lamp or a heat gun before piston installation.

CAUTION: Piston temperature must not exceed 46 °C (115 °F). NEVER USE DIRECT FLAME to heat the piston and never freeze the pin.

At assembly, place the pistons **no.1** over the connecting rods with the letters “AUS” (above the arrow on the piston dome) facing in direction of the exhaust side.



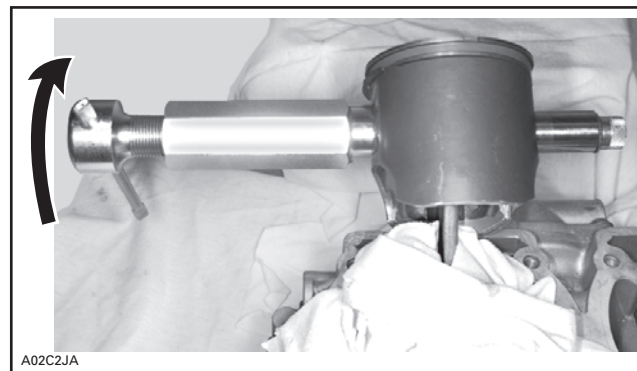
1. Exhaust

Install shouldered sleeve.



TYPICAL — SHOULDERED SLEEVE INSTALLATION

Install piston pin **no. 4** puller and turn handle until piston pin is correctly positioned in piston.



TYPICAL

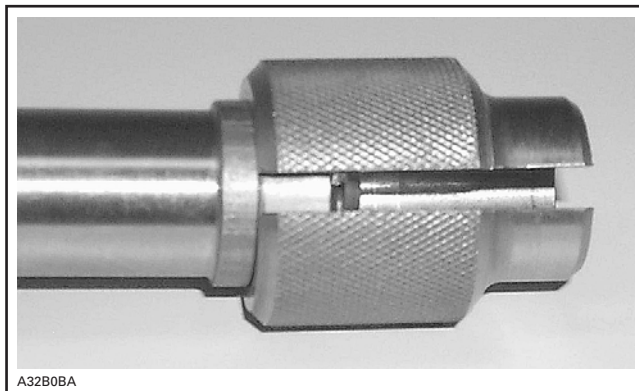
Use new circlip installer (P/N 529 035 686 — mandatory auto-shipped tool) to install new mono-hook circlips **no. 24**.

Circlip Installation

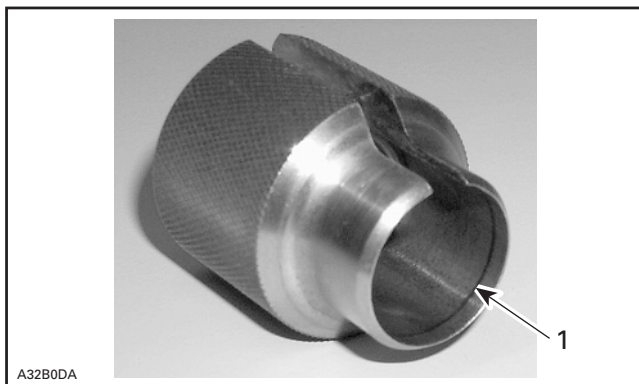
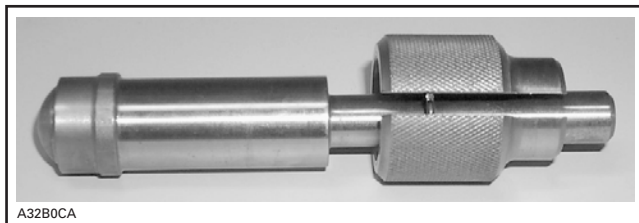
Insert circlip into support. Take care to install circlip so that tab will be toward top of piston.



With round end of pusher, position circlip perpendicular to the support axis.



With the other end of the pusher, push circlip into the support groove

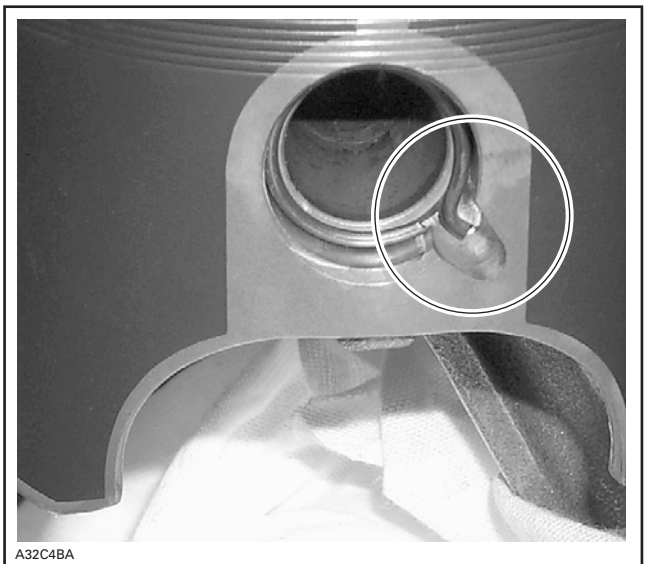


1. Groove



CIRCLIP READY TO BE INSTALLED ON PISTON

Using a plastic hammer, tap pusher to insert circlip in place. Take care to install new circlips with tab toward top as per following photo.



TAB TOWARD TOP

CAUTION: Always install new mono-hook circlips. If circlip installation fails at the first attempt, always retry with a new one as on a second attempt circlip will lose its normal retaining capabilities.

CAUTION: Circlips must not move freely after installation; if so, replace them.

Clean cylinders and crankcase mating surfaces with Loctite Chisel (P/N 413 708 500).

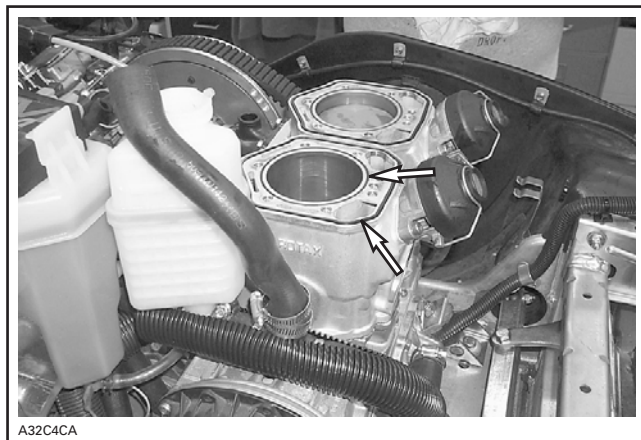
Coat crankcase mating surface with Loctite 518 (P/N 293 800 038). Choose the right gasket no. 15 through 18 (refer to identification holes on old gasket) then, install it on crankcase. Coat gasket with Loctite 518.

CAUTION: Always replace original gasket with a gasket showing the same amount of identification holes. Failure to do so may cause detonation and severe engine damage.

Before inserting piston in cylinder, lubricate the pistons all around piston rings with new injection oil or equivalent.

Install cylinders . Do not tighten.

Install new rubber ring **no. 21** and round O-rings **no. 22** on each cylinder.

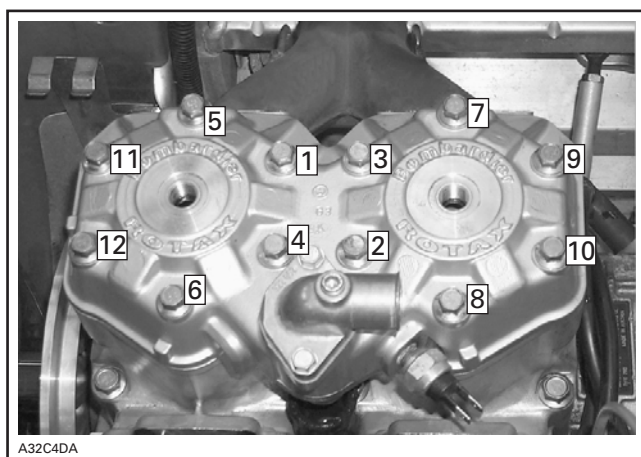


NOTE: Carefully clean bolts before reinstallation, specifically under bolt head.

Install exhaust manifold with gaskets **no. 23**. Do not tighten yet.

At assembly, torque cylinder bolts to 40 N•m (30 lbf•ft) in a criss-cross sequence and torque cylinder head screws to 29 N•m (21 lbf•ft) in the following illustrated sequence.

Tighten exhaust manifold bolts to 29 N•m (21 lbf•ft) in a criss-cross sequence.



Install new ready-to-use pre-gapped spark plugs (NGK BR9ECS) **no. 5**.

CAUTION: Do not attempt to adjust spark plug gap. Doing so may result in breakage of the ground electrode.

Plug engine coolant outlet hose.

Engine Leak Test

Refer to *2001 Ski-Doo Shop Manual, volume 3* for leak test procedure.

Plug temperature sensor and secure it with locking tie **no. 2** and reinstall intake resonator.

New Coolant Tank Installation

Remove bleeding screw on thermostat outlet socket and discard.

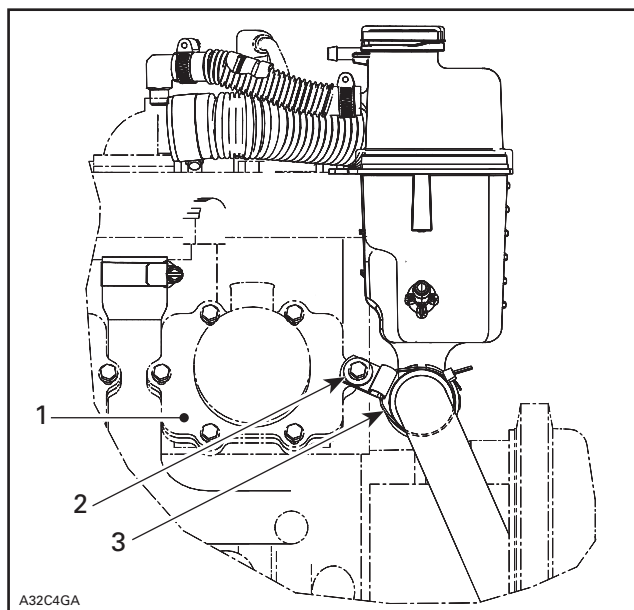
Apply Loctite pipe sealant (P/N 293 800 018) on 90° elbow fitting **no. 10** and install on thermostat outlet socket.

Screw elbow fitting until well tightened, then turn more to get an angle of 20 degrees between outlet socket and elbow fitting.



A. Angle of 20°

Install new bracket **no. 8** with washer **no. 9** on MAG side reed valve. See next drawing.



1. Mag side reed valve
2. Bracket and washer
3. Locking tie securing radiator outlet hose

Insert locking tie **no. 11** in bracket.

Install overflow hose on coolant tank.

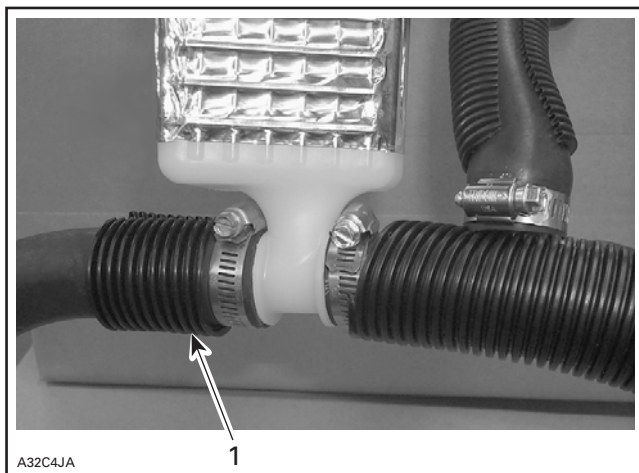
Align groove of coolant tank assembly **no. 7** with groove of oil tank and carefully slide upward.

Insert electrical wiring into hose protector and secure hoses as per following photo.



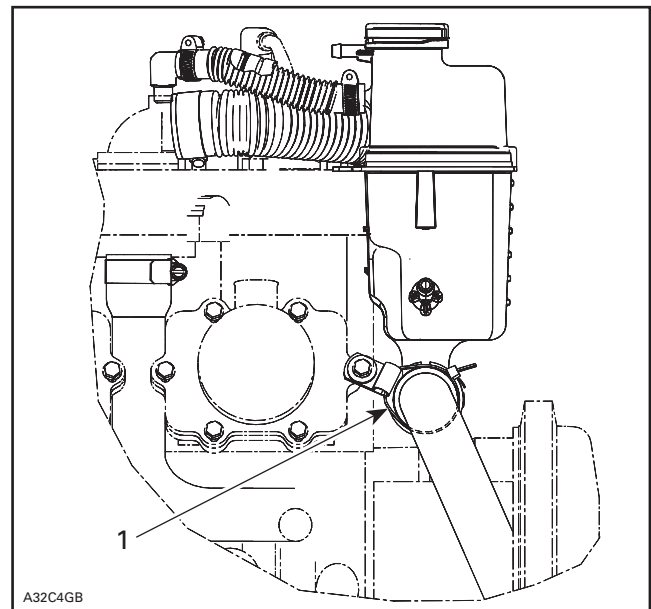
1. Secure these hoses with large Tridon clamps
2. Secure this hose with Tridon clamp **no. 13**
3. Wiring harness (magneto)

Install hose protector **no. 14** on radiator outlet hose.



1. Hose protector

Secure radiator outlet hose with locking tie **no. 11** as shown on next drawing.



1. Locking tie **no. 11**

Parts Reinstallation

Reinstall carburetor bracket.

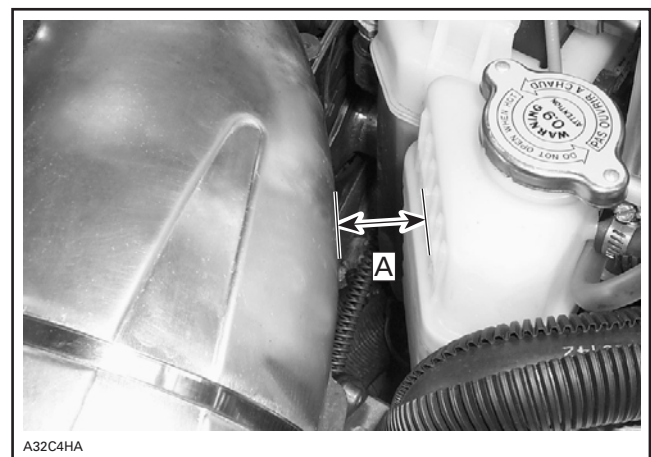
Reinstall carburetors.

Make sure throttle lever returns freely.

Reinstall the air intake silencer.

Reinstall tuned pipe. Apply Ultra-Copper (P/N 413 710 300) on exhaust manifold/tuned pipe and tuned pipe/muffler contact surfaces before reinstallation.

CAUTION: Make sure coolant tank and tuned pipe never touch. Distance between tank and tuned pipe must be at least 25 mm (1 in).



- A. 25 mm (1 in)

Reinstall air silencer.

Reinstall belt guard.

Cooling System Refilling Procedure

IMPORTANT: USE THE 50/50 PREMIXED COOLANT (- 40°C) PROVIDED WITH THIS KIT.

This new coolant has an improved efficiency and reduces the risk of piston detonation.

Note tag on reservoir concerning bleeding procedure.

Remove tag from reservoir.

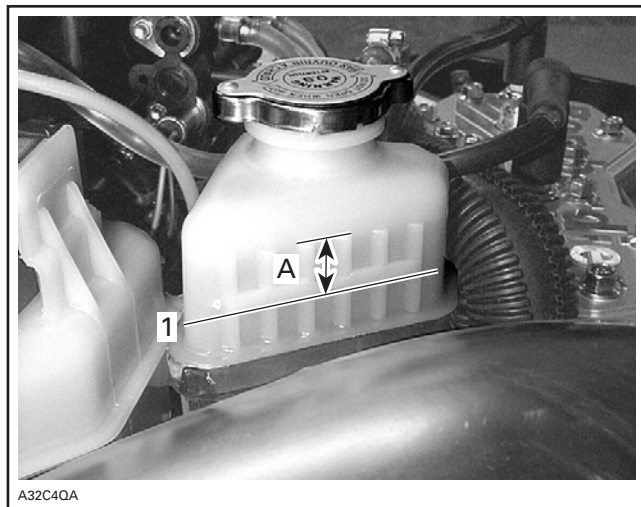
With engine cold, refill coolant tank up to COLD LEVEL line with coolant **no. 12**. Start engine. Refill up to line while engine is idling until rear radiators are warm to the touch. (about 4 to 5 minutes). Always monitor coolant level while filling tank to avoid emptying. Install pressure cap.

Lift rear of vehicle and support it safely.

Activate throttle lever 3-4 times to bring engine speed to 7000 RPM.

Apply the brake.

Lower vehicle back on ground and add coolant up to 15 mm above the COLD LEVEL line.



1. Cold level line
A. 15 mm

Lift front of vehicle of 60 cm (24 in) and support it safely. Let the vehicle idle for two minutes.

Put vehicle back on ground and add coolant up to 15 mm (1/2 in) over COLD LEVEL line.

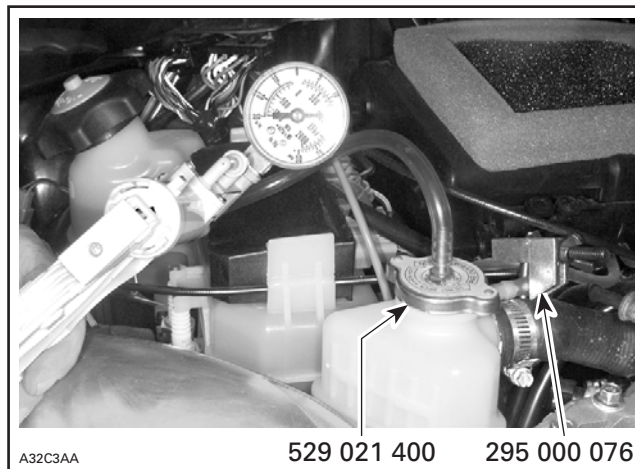
When engine has completely cooled down, re-check coolant level in coolant tank and refill up to line if needed.

Check for coolant mixture freezing point. Specification is - 40 °C. Adjust as necessary.

COOLING SYSTEM LEAK TEST

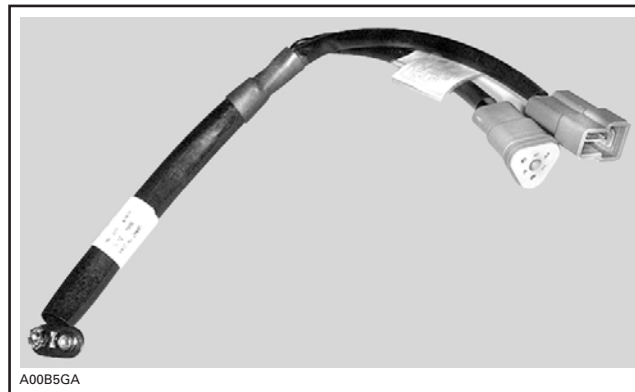
Install special radiator cap (P/N 529 021 400) included in engine leak tester kit (P/N 861 749 100) on coolant tank. Install hose pincher (P/N 295 000 076) on overflow hose. Using pump also included in kit, pressurize system through coolant reservoir to 100 kPa (15 PSI).

Check all hoses and cylinder/base for coolant leaks. Spray a soap/water solution and look for air bubbles.



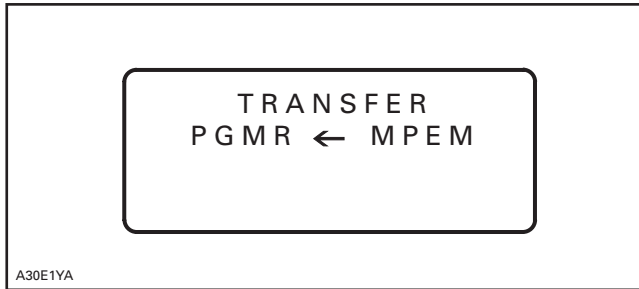
MPEM REPROGRAMMING

This MPEM Program replacement procedure must be done using the by-pass wire (P/N 529 035 675) and the Programming Cartridge (P/N 512 059 590) which were auto-shipped to the dealers mid-August 2001. This procedure changes the engine timing curve, resets hour-meter to zero and initializes a 1-hour break-in period.

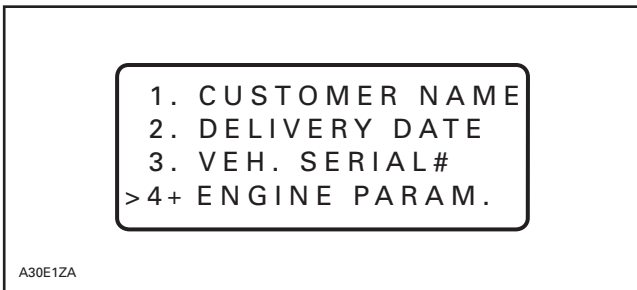


Connect by-pass wire. Turn on programmer then enter password.

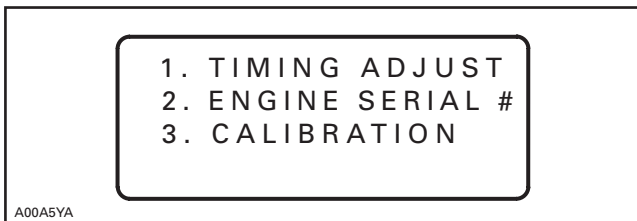
Press 3 for VEHICLE INFO, following screen appears temporarily:



Followed by this screen:

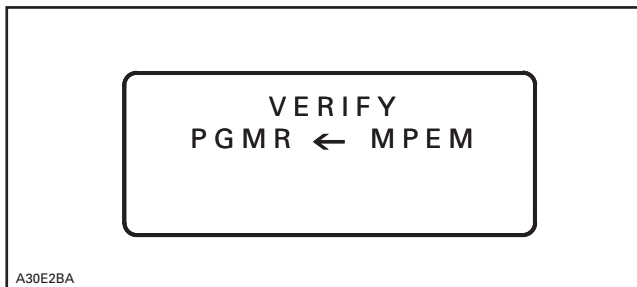


Press 4 for ENGINE PARAMETERS, following screen appears:

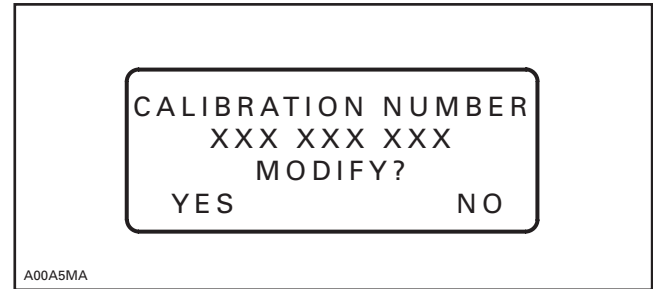


Press 3 for CALIBRATION.

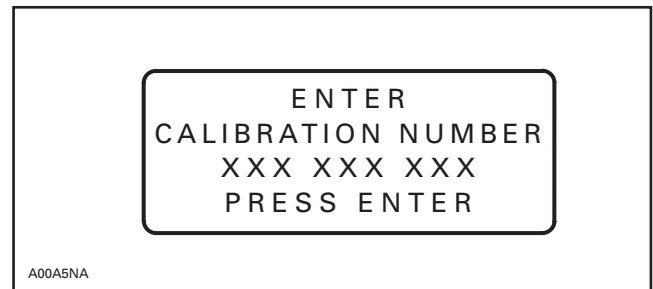
←Trs appears temporarily and then following screen:



The following screen showing the actual calibration number in the vehicle.



Select YES to MODIFY? and press ENTER; following screen appears:

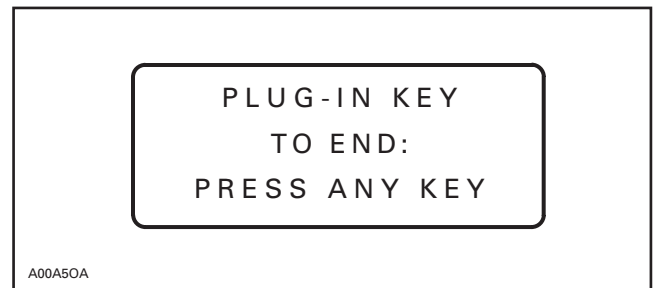


Enter calibration number:

- 512 059 599 for MX Z models;
- 512 059 600 for Summit models.

IMPORTANT: Be sure to enter the correct number.

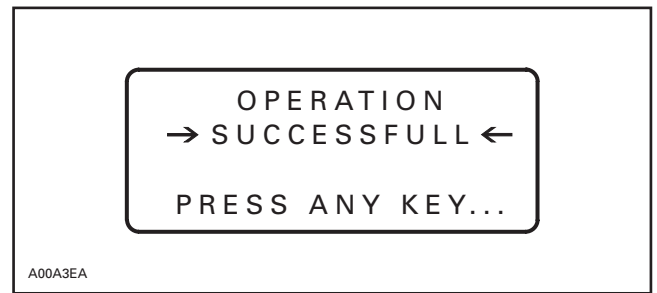
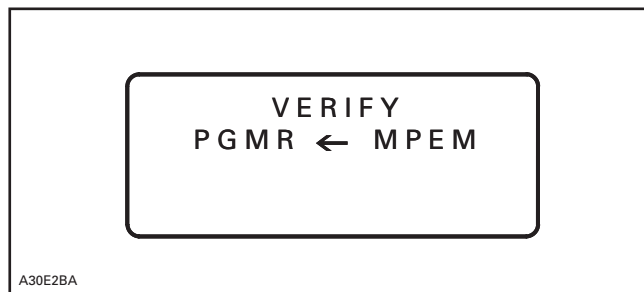
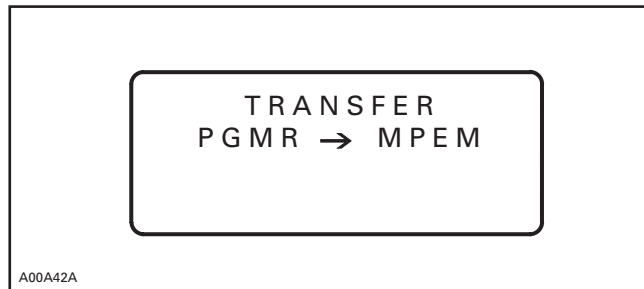
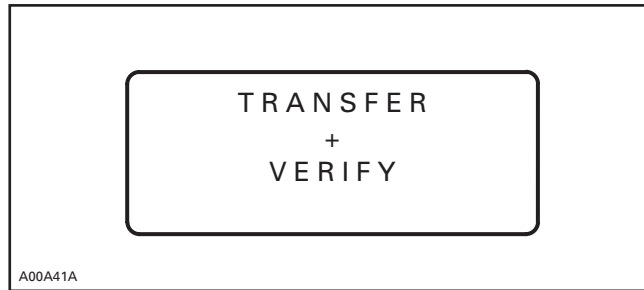
Press ENTER, following screen appears:



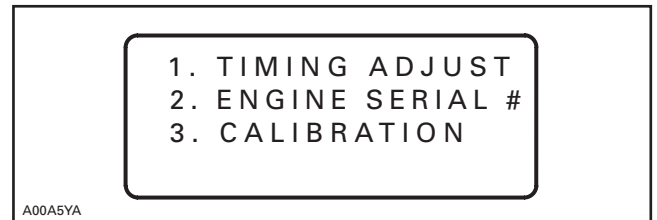
NOTE: If an error occurred during data entry, the procedure will have to be redone completely.

When calibration cartridge is plugged-in, a transfer will occur: ←Trs.

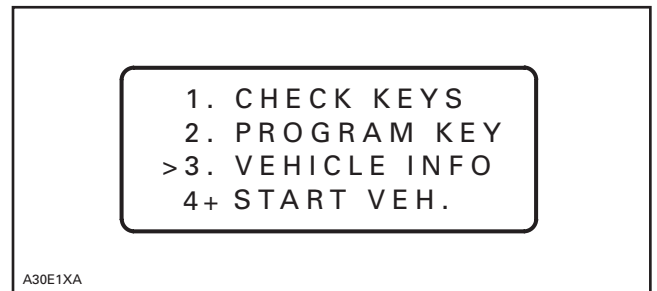
Plug-in calibration cartridge (P/N 512 059 590) onto the programmer post, the following screens will appear temporarily:



Press any key, **←Trs** will appear followed by next screen:



Press MENU twice, following screen will appear:



Reprogramming is completed.

The following table is to be consulted if and when a tightening torque is required but not specified.

Bold face size indicates nominal value (mean value).

N•m	FASTENER SIZE (8.8 GRADE)	Lbf•in
2	M4	18
3	M4	27
4	M5	35
8	M6	71
9	M6	80
10	M6	89
11	M6	97
12	M6	106

N•m	FASTENER SIZE (8.8 GRADE)	Lbf•ft
21	M8	15
22	M8	16
23	M8	17
24	M8	18
25	M8	18
43	M10	32
44	M10	32
45	M10	33
46	M10	34
47	M10	35
48	M10	35
49	M10	36
50	M10	37
51	M10	38
52	M10	38
53	M10	39
76	M12	56
77	M12	57
78	M12	58
79	M12	58

N•m	FASTENER SIZE (8.8 GRADE)	Lbf•ft
80	M12	59
81	M12	60
82	M12	60
83	M12	61
84	M12	62
121	M14	89
122	M14	90
123	M14	91
124	M14	91
125	M14	92
126	M14	93
127	M14	94
128	M14	94
129	M14	95
130	M14	96
131	M14	97
132	M14	97
133	M14	98
134	M14	99
135	M14	100
136	M14	100
137	M14	101
138	M14	102
139	M14	103
140	M14	103
141	M14	104
142	M14	105
143	M14	105
144	M14	106
145	M14	107
146	M14	108
147	M14	108
148	M14	109
149	M14	110
150	M14	111

590 122 300

1.	420 888 439	Piston (2)	Piston (2)
2.	293 750 002	Locking Tie — 130 mm	Attache — 130 mm
3.	420 832 425	Needle Bearing (cageless) (2)	Roulement à aiguilles sans cage (2)
4.	420 916 370	Piston Pin (2)	Axe de piston (2)
5.	512 059 552	Spark Plug BR9ECS (2)	Bougie BR9ECS (2)
6.	404 161 961	O-Ring (2)	Joint torique (2)
7.	512 059 602	Coolant Tank Ass'y	Réservoir de liquide de refroidissement (complet)
8.	415 052 400	Bracket	Support
9.	391 301 600	Washer	Rondelle
10.	293 700 020	Elbow Fiting	Raccord coudé
11.	509 000 165	Locking Tie — 380 mm	Attache — 380 mm
12.	293 600 038	Coolant (2 bottles — not shown)	Liquide de refroidissement (2 bouteilles — non illustrées)
13.	293 650 038	Tridon Clamp	Bride Tridon
14.	415 084 700	Hose Protector	Protecteur de boyau
	420 888 745	Cylinder Gasket Kit Including:	Ensemble de joints d'étanchéité pour cylindre, dont:
15.	420 931 838	Gasket 0.5	Joint d'étanchéité 0.5
16.	420 931 837	Gasket 0.6	Joint d'étanchéité 0.6
17.	420 931 964	Gasket 0.7	Joint d'étanchéité 0.7
18.	420 931 839	Gasket 0.8	Joint d'étanchéité 0.8
19.	420 430 110	O-Ring (2)	Joint torique (2)
20.	420 931 542	Gasket (2)	Joint d'étanchéité (2)
21.	420 931 590	Rubber Ring (2)	Joint de caoutchouc (2)
22.	420 931 410	Cylinder O-Ring (2)	Joint torique de cylindre (2)
23.	420 931 850	Gasket for Engine Type 793 (2)	Joint d'étanchéité pour moteur de type 793 (2)
24.	420 845 106	Circlip (4)	Circlip (4)

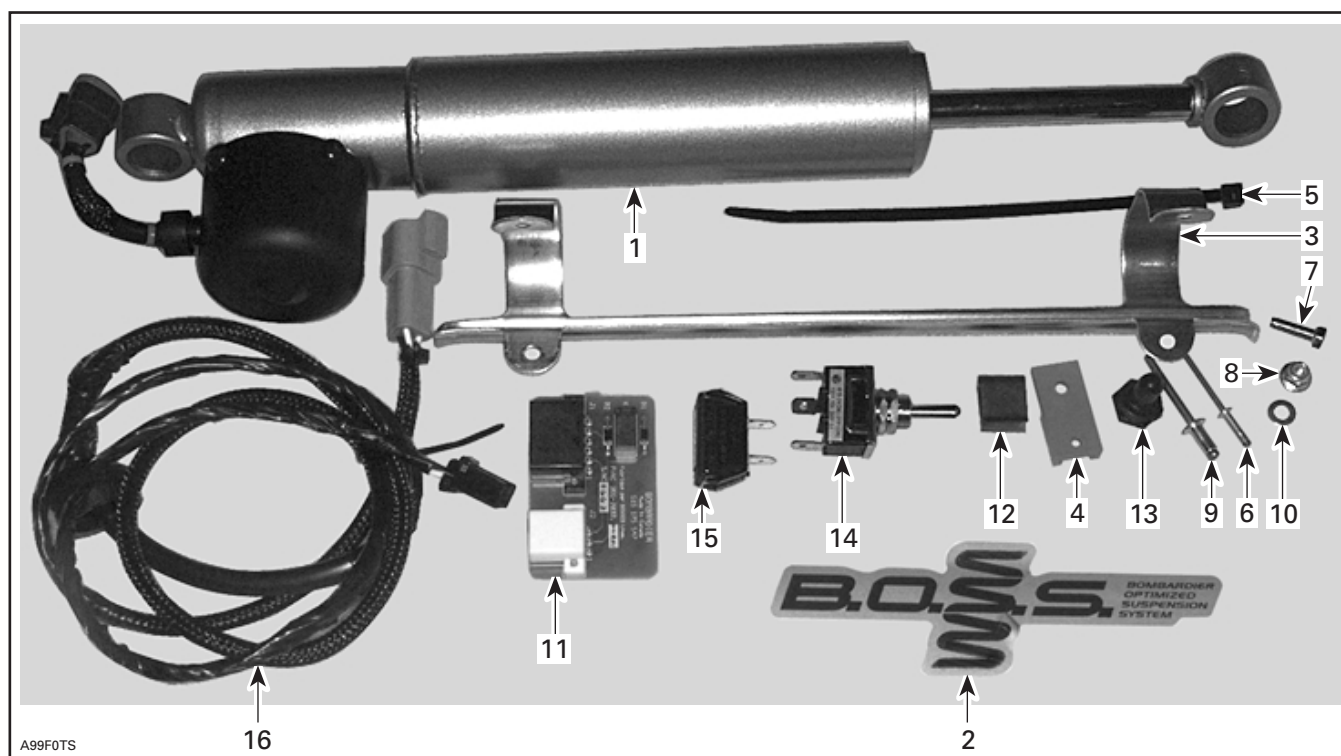
**ELECTRIC SHOCK ABSORBER
(P/N 860 306 100)**

⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. This instruction sheet should be given to the purchaser. This kit is designed for specific applicable models only. It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 1.0 hour.

PARTS TO BE INSTALLED



- | | |
|--------------------------------|--|
| 1. Electric Shock Absorber | 10. M5 Flat Washer (2) |
| 2. Tunnel Decal (2) | 11. Electronic Control Unit |
| 3. Wiring Harness Support | 12. Clip |
| 4. Electrical Connector Anchor | 13. Switch Cover |
| 5. Locking Tie (5) | 14. Switch |
| 6. 3 mm (1/8 in) Rivet | 15. Pilot Lamp |
| 7. M5 x 16 Hexagonal Screw (2) | 16. Wiring Harness |
| 8. M5 Flanged Elastic Nut (2) | 17. Console Decal (not illustrated) |
| 9. 4.7 mm (3/16 in) Rivet | 18. Socket Screw with Scotch Grip (2)
(not illustrated) |

INSTRUCTION

Underneath Vehicle

Lift rear of vehicle and slide a solid box under track at about shock absorber height and let vehicle rest on box.

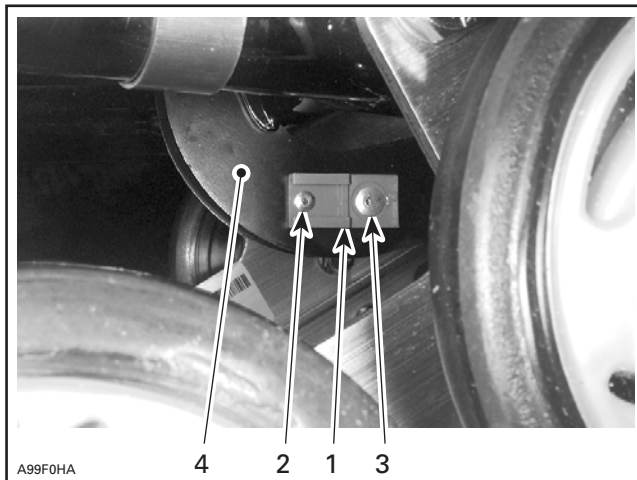
Remove and discard existing shock absorber keeping its bushings, bolts and nuts to be used with new shock absorber.

Insert bushings in new electric shock absorber **no. 1** and install same *with motor at bottom and toward left side*, using old shock absorber bolts and nuts. Tighten upper and lower shock absorber bolts.

Lift rear of vehicle just enough to remove box underneath and bring vehicle back on the ground.

Remove and discard bolts retaining suspension to tunnel on both sides and lift rear of vehicle so suspension assembly will detach from tunnel and remain on the ground.

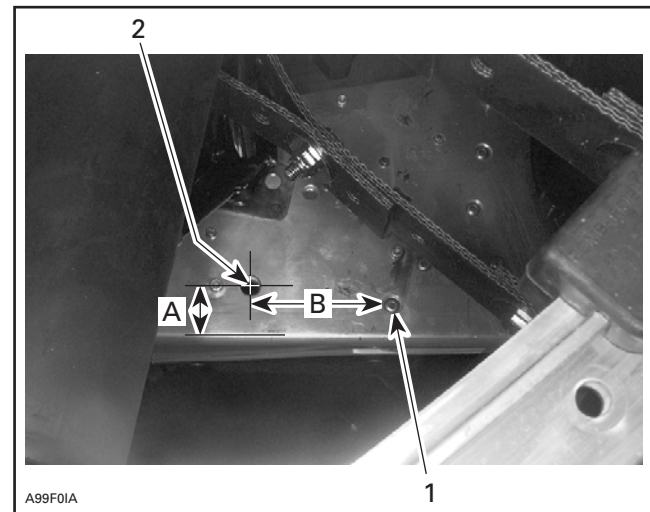
Install electrical connector anchor **no. 4** on left side of front arm lower bracket using rivet **no. 6** in forward hole and rivet **no. 9** in rear hole. Refer to following photo.



SHOWN FROM LEFT SIDE

1. Electrical connector anchor **no. 4**
2. Smaller rivet **no. 6** here
3. Bigger rivet **no. 9** here
4. Front arm lower bracket

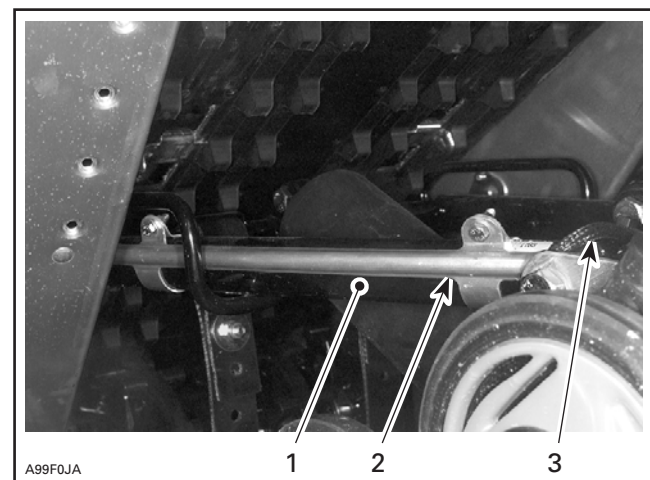
Working from right side and on the inner surface of left side tunnel wall, draw an horizontal line at 32.75 mm (1-9/32 in) from lower edge of tunnel and a vertical line 80 mm (3-9/64 in) at rear of guiding rivet. Mark the spot with a punch where both lines cross each other and drill a 27 mm (1-1/16 in) diameter hole at that spot.



1. Guiding rivet
2. Drill a 27 mm (1-1/16 in) diameter hole here
- A. 32.75 mm (1-9/32 in)
- B. 80 mm (3-9/64 in)

From inside tunnel, insert wiring harness **no. 16** through hole starting with smaller connector end until harness grommet is properly inserted in hole.

Hook-up wiring harness support **no. 3** onto front arm left side vertical tubing; route wiring harness all the way under support and secure same loosely onto front arm left side vertical tubing using M5 x 16 hexagonal screws **no. 7**, M5 flat washers **no. 10** and M5 flanged elastic nuts **no. 8**. Refer to following photo.

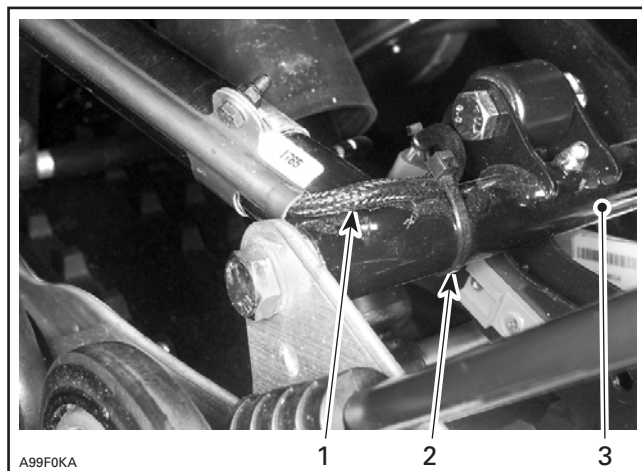


1. Front arm left side vertical tubing
2. Wiring harness support **no. 3**
3. Wiring harness routed underneath support

Slide wiring harness female connector into previously installed electrical connector anchor and connect shock absorber wiring connector into female connector.

Secure wiring harness to front arm lower horizontal tube with a locking tie **no. 5**.

Secure wiring harness to upper vertical tube with a locking tie **no. 5**.



1. Wiring harness **no. 16**
2. Locking tie **no. 5**
3. Front arm lower horizontal tube

Tighten wiring harness support bolts and nuts.

Lower vehicle and align tunnel holes with suspension; secure suspension to tunnel using socket screws with scotch grip **no. 18**.

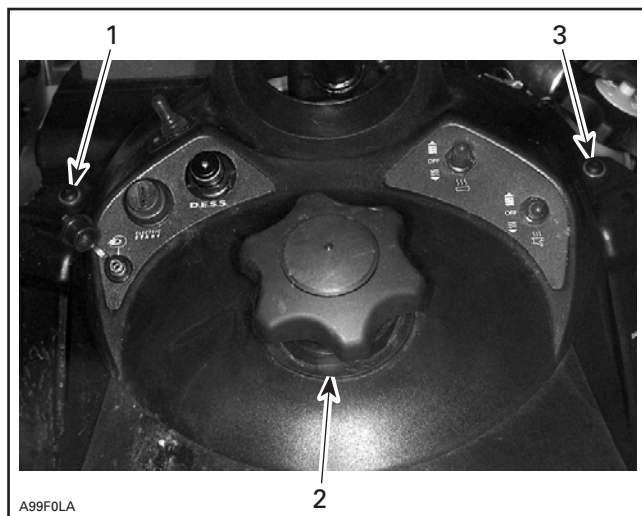
Under Console and Hood

Lift hood.

Remove steering cover.

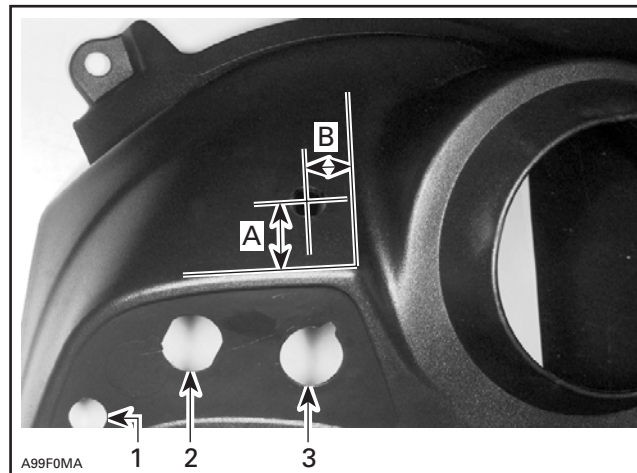
Remove console retaining screws and gas filler neck cap and then, unscrew and remove gas filler neck plastic nut.

NOTE: At that point, gas filler neck cap can be re-installed to avoid the discomfort of gas smell.



1. Remove this screw
2. Gas filler neck plastic nut
3. Remove this screw

As per following photo, drill a 12.7 mm (1/2 in) hole in console.

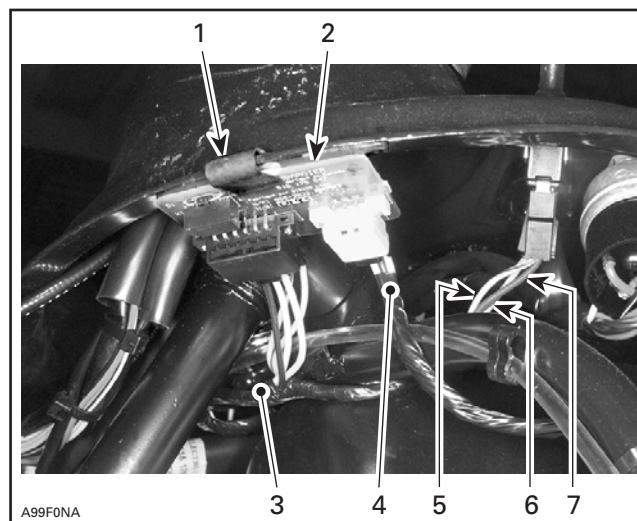


1. 12 V output
2. Electric start
3. DESS
- A. 27 mm (1-1/16 in)
- B. 14 mm (35/64 in)

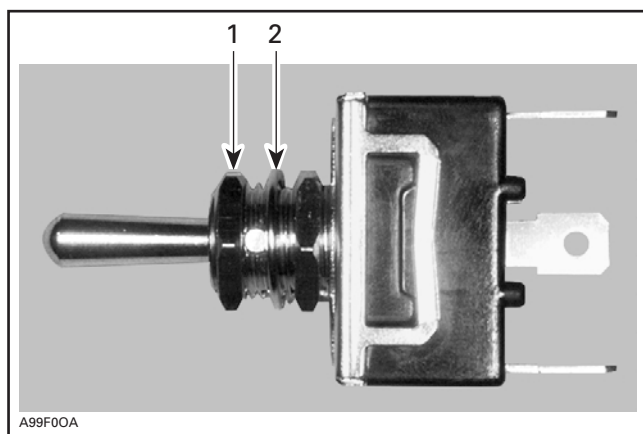
Apply console decal **no. 17**.

Remove air silencer.

From harness already there under console, connect YELLOW/BLACK wire to forward switch leg, RED wire to center switch leg and YELLOW/BROWN wire to rearward switch leg and then, from underneath, secure switch **no. 14** to console with its flat washer underneath console.



1. Clip **no. 12**
2. Electronic control unit **no. 11**
3. Already existing wiring harness
4. Electric shock absorber wiring harness **no. 16**
5. YELLOW/BLACK wire
6. YELLOW/BROWN wire
7. RED wire

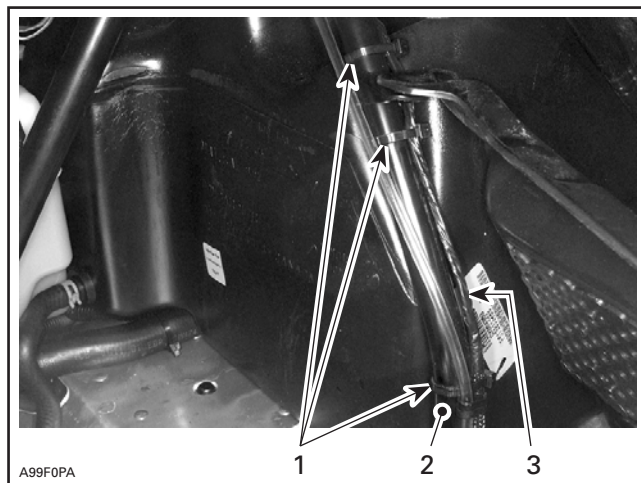


1. Nut
2. Washer (must be placed underneath console)

Protect switch by screwing cover **no. 13** onto it.

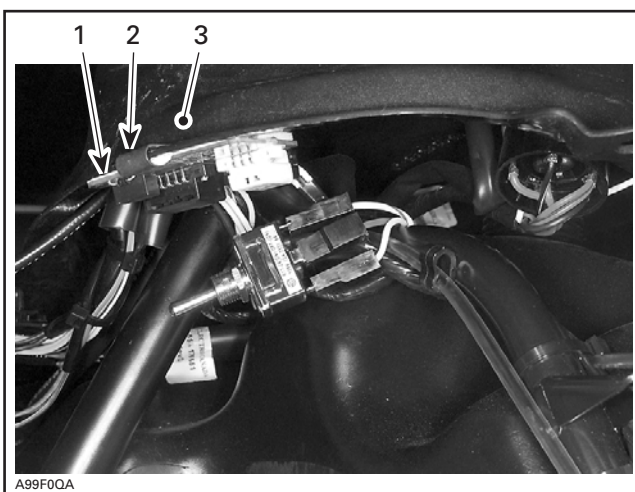
Coming from same harness under console, insert large connector into electronic control unit (**no. 11**) receptacle.

From underneath left side footrest, reach electric shock absorber wiring harness, pull it upward alongside handle support left side tubing, secure it to tubing with 3 locking ties **no. 5** as per following photo and connect it into electronic control unit remaining receptacle.



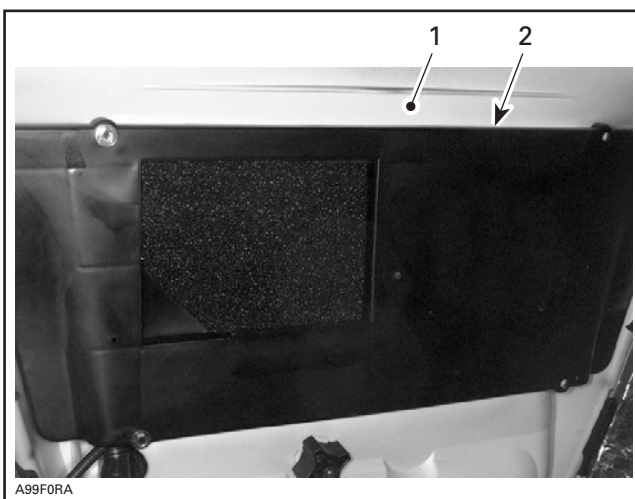
1. Locking ties **no. 5**
2. Handle support left side tubing
3. Electric shock absorber wiring harness **no. 16**

Secure electronic control unit to console using clip **no. 12**.



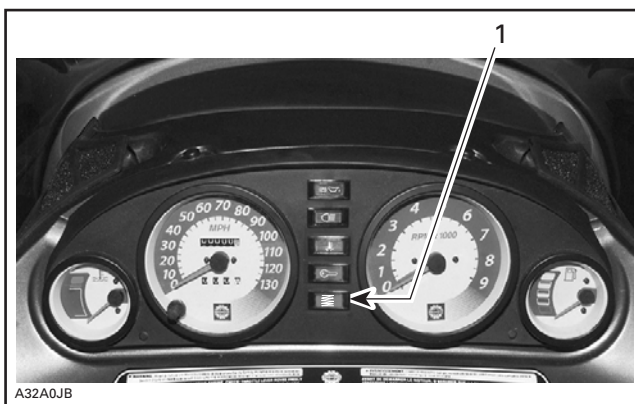
1. Electronic control unit **no. 11**
2. Clip **no. 12**
3. Console

From underneath hood, remove plate covering all gauges.



1. Hood
2. Remove this plate

Following illustration shows exactly where pilot lamp **no. 15** goes.



TYPICAL

1. Electric shock absorber pilot lamp

Unsnap the 2 lowest pilot lamps to get the distance between one another and to measure hole size.

Transpose these informations in order to locate new hole and cut dash to get that new hole.

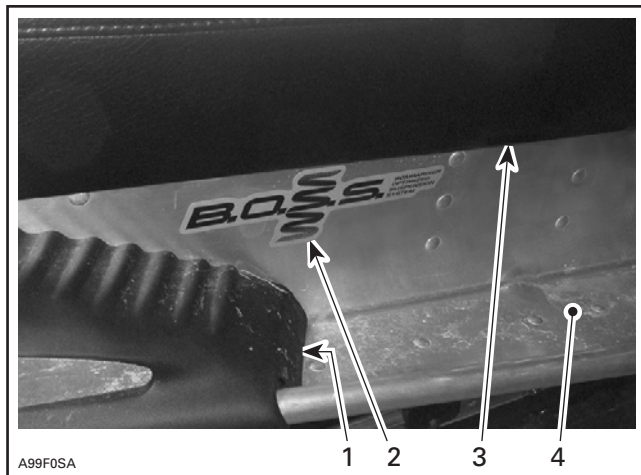
Snap the 2 removed pilot lamps in place.

Snap pilot lamp **no. 15** in place.

Connect YELLOW/BLACK and YELLOW/WHITE wire terminals to lamp.

Turn ignition key on and verify for proper functioning of electric shock absorber and pilot lamp.

Apply tunnel decals **no. 2**, one on each side, on tunnel close to rear side mouldings.



RIGHT SIDE SHOWN

1. Side moulding
2. Tunnel decal **no. 2**
3. Seat
4. Tunnel

Reinstall under hood plate.

Reinstall air silencer.

Reinstall console and steering cover.

Close hood.

Installation is now complete.

860 306 100

1.	503 189 453	Electric Shock Absorber	Amortisseur électrique
2.	516 000 950	Tunnel Decal (2)	Autocollant de tunnel (2)
3.	503 189 573	Wiring Harness Support	Support de faisceau de fils
4.	503 189 685	Electrical Connector Anchor	Dispositif d'ancrage de raccord électrique
5.	414 115 200	Locking Tie (5)	Attache (5)
6.	390 401 600	3 mm (1/8 in) Rivet	Rivet de 3 mm (1/8 po)
7.	207 151 644	M5 x 16 Hexagonal Screw (2)	Vis hexagonale M5 x 16 (2)
8.	233 251 414	M5 Flanged Elastic Nut (2)	Écrou élastique à épaulement M5 (2)
9.	390 402 000	4.7 mm (3/16 in) Rivet	Rivet de 4.7 mm (3/16 po)
10.	234 051 410	M5 Flat Washer (2)	Rondelle plate M5 (2)
11.	515 175 547	Electronic Control Unit	Unité de contrôle électronique
12.	515 175 663	Clip	Pince
13.	515 175 281	Switch Cover	Couvre-interrupteur
14.	410 111 500	Switch	Interrupteur
15.	515 175 552	Pilot Lamp	Lampe témoin
16.	515 175 553	Wiring Harness	Faisceau de fils
17.	516 000 985	Console Decal (not illustrated)	Autocollant de console (non illustré)
18.	205 523 544	Socket Screw with Scotch Grip (2) (not illustrated)	Vis à tête creuse enduite de Scotch Grip (2) (non illustrée)

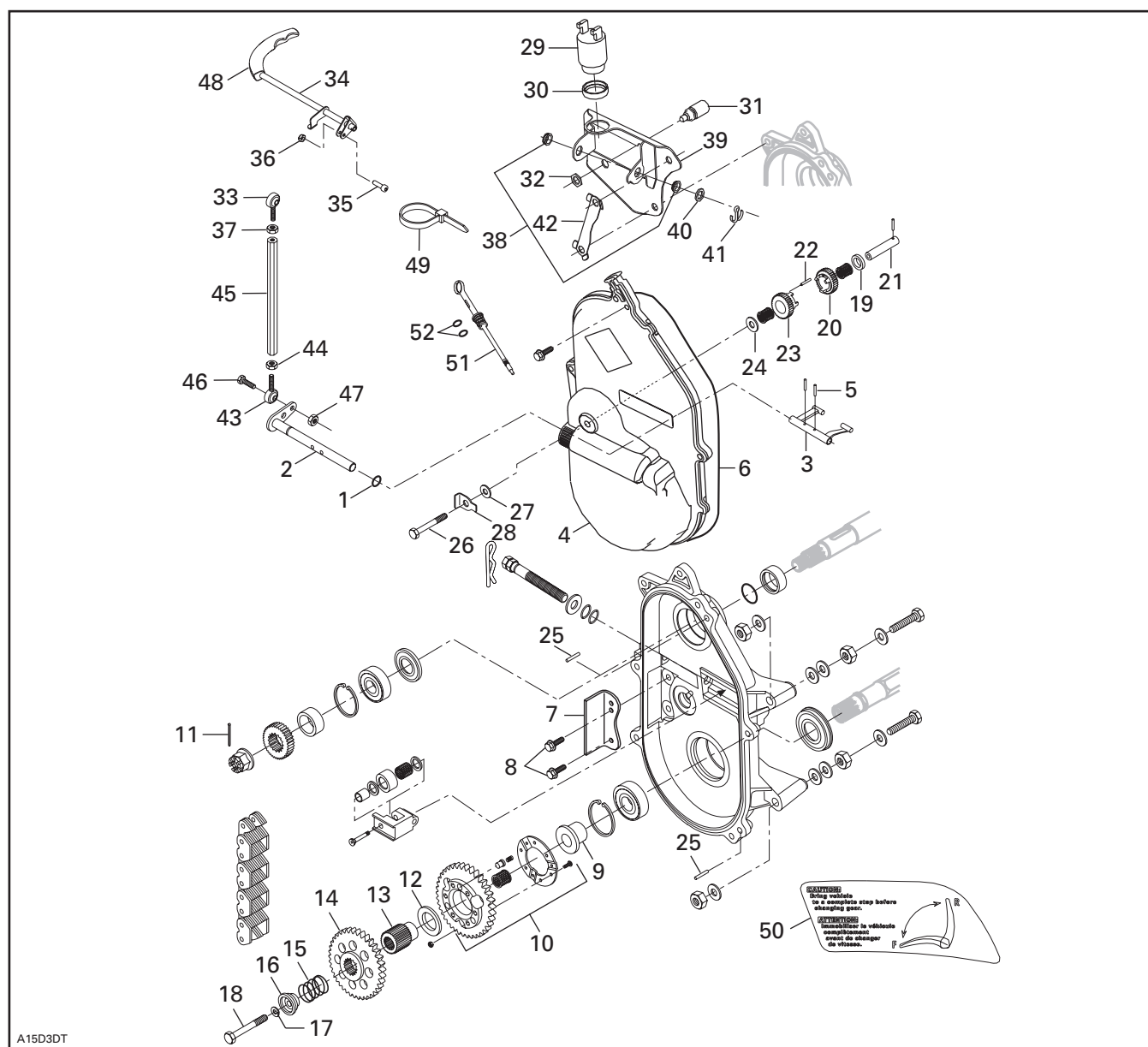
**REVERSE TRANSMISSION KIT
(P/N 860 423 900)**

⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. This instruction sheet should be given to the purchaser. This kit is designed for specific applicable models only. It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 2.5 hours.

PARTS TO BE INSTALLED



A15D3DT

- | | |
|--|-------------------------------|
| 1. O-Ring | 27. Copper Washer M8 |
| 2. Fork Shaft | 28. Locking Tab |
| 3. Fork | 29. Back-Up Alarm |
| 4. Chaincase Cover | 30. Plastic Nut |
| 5. Spring Pin (2) | 31. Switch (assembly) |
| 6. O-Ring | 32. Nut (2) |
| 7. Chain Slider | 33. Ball Joint RH Side Thread |
| 8. Self-Tapping Hexagonal Bolt (2) | 34. Welded Handle |
| 9. Flanged Bushing | 35. Socket Screw M6 x 20 |
| 10. Lower Sprocket, Wide (assembly) (44 teeth) | 36. Elastic Stop Nut M6 |
| 11. Cotter Pin | 37. Tie Rod Jam Nut M6 |
| 12. Washer | 38. Flanged Bushing (2) |
| 13. Coupling Shaft | 39. Handle Support |
| 14. Sliding Sprocket (56 teeth) | 40. Washer |
| 15. Release Spring | 41. Cotter Pin |
| 16. Cap | 42. Locking Tab |
| 17. Spring Lock Washer M10 | 43. Ball Joint LH Side Thread |
| 18. Hexagonal Bolt M10 x 50 | 44. Jam Nut LH Side Thread |
| 19. Ring | 45. Tie Rod |
| 20. Drive Sprocket (19 teeth) | 46. Hexagonal Bolt M6 x 20 |
| 21. Reverse Shaft (assembly) | 47. Elastic Stop Nut M6 |
| 22. Rubber Alignment Pin | 48. Handle Grip |
| 23. Reverse Sprocket (19 teeth) | 49. Locking Tie (2) |
| 24. Spacer | 50. Decal |
| 25. Dowel Pin (2) | 51. Dipstick |
| 26. Hexagonal Bolt M8 x 90 | 52. O-Ring (2) |

INSTRUCTIONS

Chaincase Preparation

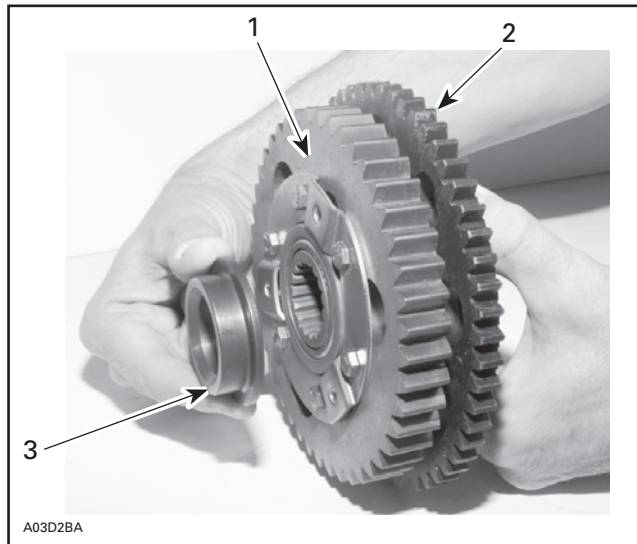
1. Remove tuned pipe(s) and muffler.
2. Remove chain tension.
3. Remove drain plug from chaincase and drain oil.
4. Remove chaincase cover.
5. Remove rubber muffler support from old chaincase cover.
6. Unscrew bolt retaining lower sprocket (M10 x 25). Remove cap, lower sprocket and spacer.
7. Remove cotter pin, nut on countershaft, chain and top sprocket.

Chaincase Cover

1. Install O-ring **no. 1** on fork shaft **no. 2** and spread grease on it.
2. Install fork **no. 3** and shaft in new chaincase cover **no. 4**. Shaft lever must be pointing toward inside cover.
3. Secure with spring pins **no. 5**.
4. Install O-ring **no. 6** in cover.
5. Insert dowel pins **no. 25** into chaincase cover.
6. Install rubber muffler support on new chaincase cover.

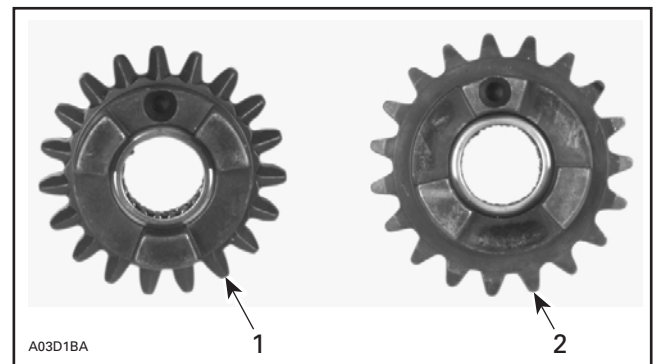
Finalizing Chaincase Assembly

1. Install chain slider **no. 7** and secure with self-tapping hexagonal bolts **no. 8**.
2. Reinstall drain plug and tighten.
3. Install flanged bushing **no. 9** and wide lower sprocket ass'y **no. 10** over drive axle and properly mesh with chain. Change chain if required.



1. 44-teeth gear
2. 56-teeth gear
3. Flanged spacer

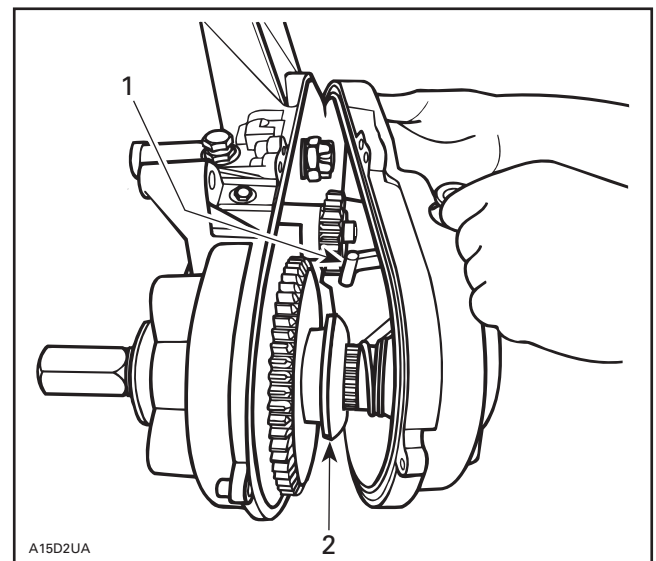
4. Install washer **no. 12** onto coupling shaft **no. 13** then insert on drive axle underneath lower sprocket ass'y.
5. Reinstall spacer and upper sprocket, then torque castellated nut to 75 N•m (55 lbf•ft). Secure nut with a new cotter pin **no. 11**.
6. On reverse shaft **no. 21**, install ring **no. 19** with drive sprocket **no. 20** and install shaft in chaincase housing making sure to properly position spring pin in housing slot.
7. Install sliding sprocket **no. 14**, release spring **no. 15**, cap **no. 16**, spring lock washer **no. 17** and hexagonal bolt **no. 18**.
8. Apply Loctite 271 (red) on bolt threads, use sparingly. Torque bolt 42 to 45 N•m (31 to 33 lbf•ft).
9. Install rubber alignment pin **no. 22** and reverse sprocket **no. 23**. Drive sprocket hole and reverse gear hole must be aligned to insert rubber alignment pin.
10. Install spacer washer **no. 24**.



1. Reverse sprocket (hole between dogs)
2. Drive sprocket (hole on dog)

11. Fully tighten chain adjusting screw by hand, then back off only far enough for hair pin to engage in locking hole.
12. Join new chaincase cover to chaincase by passing fork tabs behind sliding sprocket lip. Take care to avoid losing dowel pins.

CAUTION: Chaincase cover must completely lay against chaincase.



1. Fork tabs
2. Sliding sprocket lip

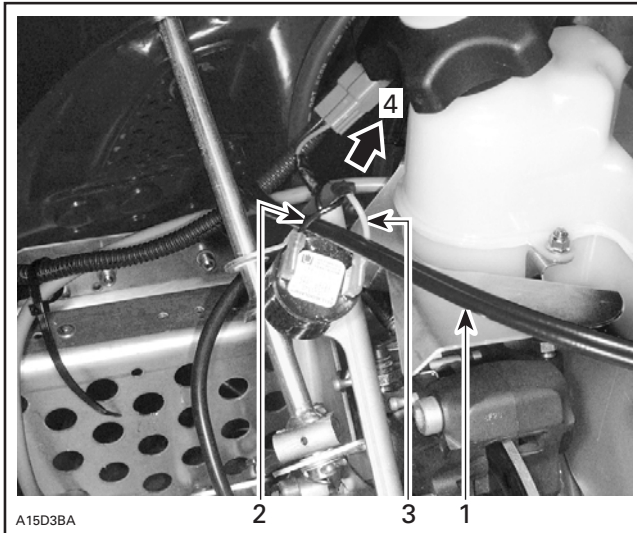
13. Tighten chaincase bolts in a criss-cross sequence beginning with top center.
14. Install reverse shaft hexagonal bolt **no. 26** with copper washer **no. 27** against chaincase cover and locking tab **no. 28** against bolt head. Position angle end of tab to rear then torque bolt 13.5 to 17 N•m (123 to 155 lbf•in). Bend locking tab against bolt head.

SHIFTING LINKAGE ASSEMBLY

1. Screw jam nut **no. 37** to ball joint **no. 33** then ball joint to tie rod **no. 45** upper end.
2. Screw jam nut **no. 44** to ball joint **no. 43** then ball joint to tie rod lower end.
3. Secure lower ball joint to fork shaft using hexagonal bolt **no. 46** and elastic stop nut **no. 47**. Both jam nuts **no. 37** and **no. 44** will serve as shifter rod (bar) adjusters.
4. Install 2 flanged bushings **no. 38** into handle support **no. 39** (from inside) and insert welded handle **no. 34**. Install washer **no. 40** on the outside and secure with cotter pin **no. 41**.

Back-Up Alarm Installation

1. Install back-up alarm **no. 29** into hole provided in handle support, secure using plastic nut **no. 30**. Refer to following illustration.

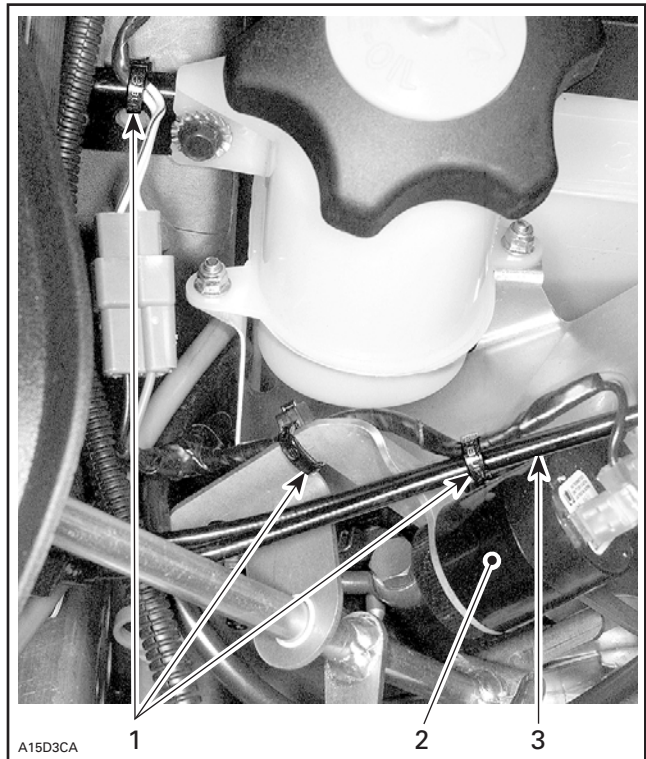


1. Choke cables
2. Wire above choke cables
3. Wire under choke cables
4. Secure back-up alarm in this angle

2. Install switch assembly **no. 31** into hole provided in handle support and secure using nut **no. 32**.

SHIFTING LINKAGE ASSEMBLY INSTALLATION

1. Drill 12.5 mm (1/2 in) hole in console. Refer to alignment embossment behind console for positioning.
2. Release locking tabs then remove bolts that are retaining brake caliper to chaincase.
3. Slide handle portion of shifting linkage ass'y through hole in console. Position handle support so as the 2 lower holes align with existing holes for brake caliper.
4. Install locking tab **no. 42** and secure using existing bolts. Bend locking tabs into place.
5. Insert ball joint **no. 33** in welded handle, secure with socket screw **no. 35** (head down) and elastic stop nut **no. 36**.
6. Install handle grip **no. 48** on welded handle.
7. Connect terminals to the alarm, make sure that RED/BBLUE wire is connected to alarm negative post. Connect tab connector housing to vehicle harness. Secure wiring harness with locking ties **no. 49**, as per following illustration.



1. Locking ties
2. Back-up alarm
3. Choke cables

ADJUSTMENTS

1. Shift into reverse gear.

NOTE: If it is impossible to shift into reverse gear, shorten tie-rod and try again. Turn the brake disk to free the gears. If it is still impossible, check if the fork engages in the sliding gear or disassemble the cover to inspect components.

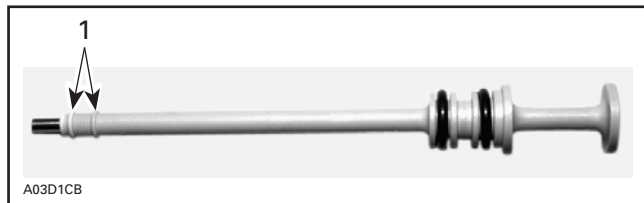
2. Completely loosen tie rod jam nut **no. 37** on the gear shift linkage.
3. Turn shifter handle in reverse position making sure all play is removed.

NOTE: It is normal to feel a slight friction when shifting into gear.

4. Statically test transmission operation in forward and reverse positions.
5. Hold linkage and tighten tie rod jam nut **no. 37**.
6. Adjust back-up alarm so that it sounds when transmission is in reverse gear while engine is running.
7. Install decal **no. 50** on console above handle.

FILLING WITH OIL

1. Fill chaincase with chaincase synthetic oil (P/N 413 803 300). Oil capacity is approximately 250 mL (8 oz).
2. Install O-rings **no. 52** on new dipstick **no. 51**.
3. Check oil level with new dipstick, oil level must be between the marks.



1. *Oil level marks*

4. Reinstall tuned pipe(s) and muffler.
5. Test drive to ensure proper operation of transmission.

860 423 900

1.	414 773 200	O-Ring	Joint torique
2.	504 151 806	Fork Shaft	Arbre de fourchette
3.	504 075 800	Fork	Fourchette
4.	504 151 845	Chaincase Cover	Couvercle du carter de chaîne
5.	414 772 500	Spring Pin (2)	Goupille-ressort (2)
6.	415 046 400	O-Ring	Joint torique
7.	504 152 036	Chain Slider	Coulisseau de chaîne
8.	210 251 180	Self-Tapping Hexagonal Bolt (2)	Boulon hexagonal autotaraudeur (2)
9.	504 076 300	Flanged Bushing	Douille à épaulement
10.	581 096 800	Wide Lower Sprocket (assembly) (44 teeth)	Pignon inférieur large (complet) (44 dents)
11.	371 006 300	Cotter Pin	Goupille fendue
12.	504 094 300	Washer	Rondelle
13.	504 097 700	Coupling Shaft	Arbre d'accouplement
14.	504 096 800	Sliding Sprocket (56 teeth)	Pignon coulissant (56 dents)
15.	504 096 600	Release Spring	Ressort de rappel
16.	504 151 964	Cap	Capuchon
17.	234 100 602	Spring Lock Washer M10	Rondelle à ressort M10
18.	207 005 044	Hexagonal Bolt M10 x 50	Boulon hexagonal M10 x 50
19.	504 078 700	Ring	Bague
20.	581 096 900	Drive Sprocket (19 teeth)	Pignon d'entraînement (19 dents)
21.	504 151 972	Reverse Shaft (assembly)	Arbre de marche arrière (complet)
22.	570 048 600	Rubber Alignment Pin	Tige d'alignement de caoutchouc
23.	581 122 200	Reverse Sprocket (19 teeth)	Pignon de marche arrière (19 dents)
24.	504 077 300	Spacer	Entretoise
25.	732 620 001	Dowel Pin (2)	Goupille d'assemblage (2)
26.	207 089 044	Hexagonal Bolt M8 x 90	Boulon hexagonal M8 x 90
27.	504 082 900	Copper Washer M8	Rondelle de cuivre M8
28.	504 087 700	Locking Tab	Patte de verrouillage
29.	414 792 102	Back-Up Alarm	Avertisseur de marche arrière
30.	414 805 101	Plastic Nut	Écrou de plastique
31.	515 175 318	Switch (assembly)	Interrupteur (complet)
32.	250 100 012	Nut (2)	Écrou (2)
33.	414 773 400	Ball Joint RH Side Thread	Joint à rotule à filetage à DROITE
34.	504 151 810	Welded Handle	Poignée soudée
35.	205 062 060	Socket Screw M6 x 20	Vis à tête creuse M6 x 20

860 423 900

36.	232 561 414	Elastic Stop Nut M6	Écrou d'arrêt élastique M6
37.	232 061 414	Tie Rod Jam Nut M6	Contre-écrou de la barre d'accouplement M6
38.	504 151 818	Flanged Bushing (2)	Douille à épaulement (2)
39.	504 151 823	Handle Support	Support de poignée
40.	503 189 264	Washer	Rondelle
41.	371 800 800	Cotter Pin	Goupille fendue
42.	507 029 900	Locking Tab	Patte de verrouillage
43.	414 773 500	Ball Joint LH Side Thread	Joint à rotule à filetage à GAUCHE
44.	232 066 414	Jam Nut LH Side Thread	Contre-écrou à filetage à GAUCHE
45.	504 151 814	Tie Rod	Barre d'accouplement
46.	207 162 044	Hexagonal Bolt M6 x 20	Boulon hexagonal M6 x 20
47.	232 561 600	Elastic Stop Nut M6	Écrou d'arrêt élastique M6
48.	570 064 600	Handle Grip	Poignée
49.	414 115 200	Locking Tie (2)	Attache (2)
50.	516 000 458	Decal	Autocollant
51.	504 151 750	Dipstick	Jauge de niveau d'huile
52.	414 969 400	O-Ring (2)	Joint torique (2)



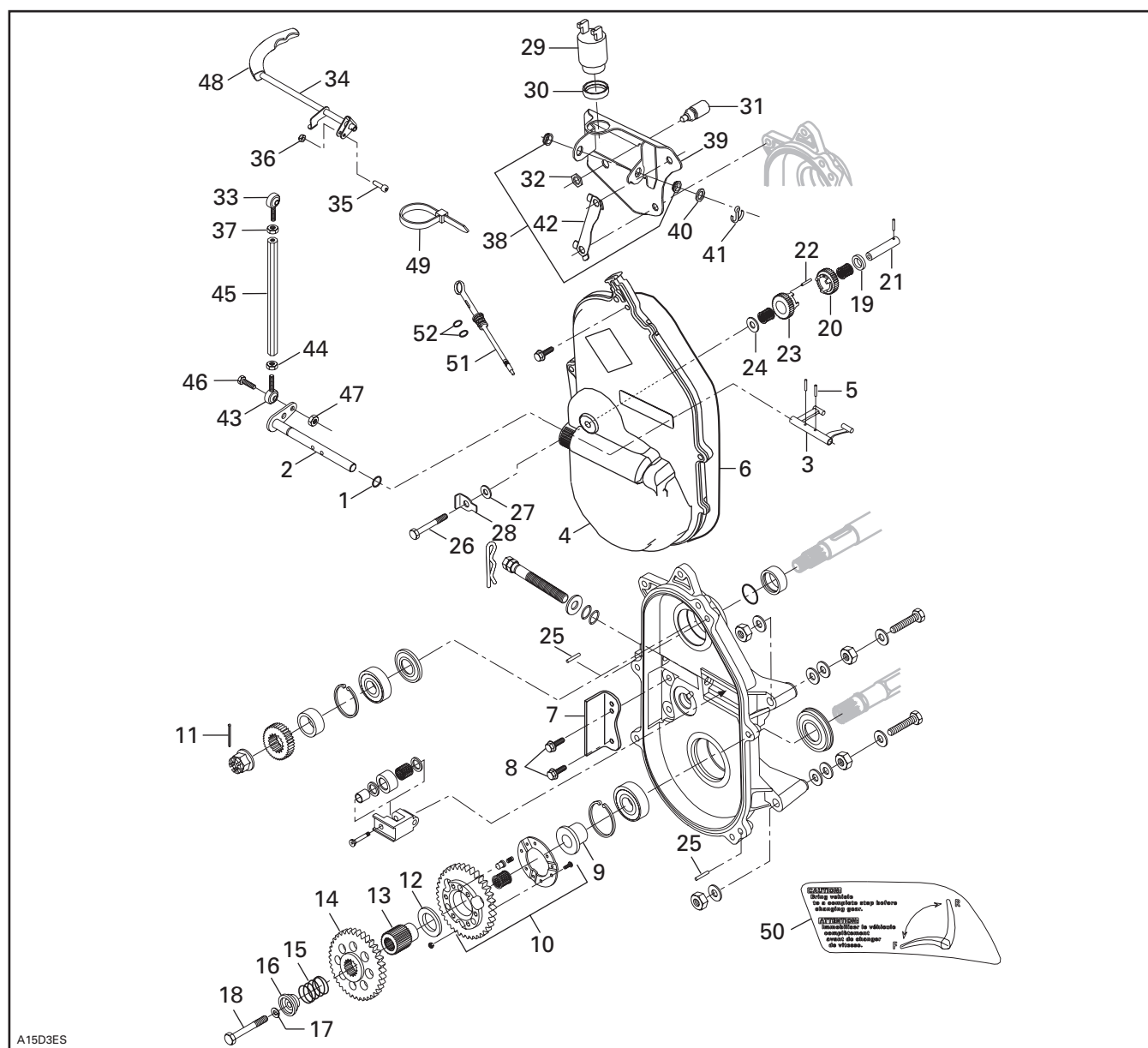
**REVERSE TRANSMISSION KIT
(P/N 860 424 000)**

⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. This instruction sheet should be given to the purchaser. This kit is designed for specific applicable models only. It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 2.5 hours.

PARTS TO BE INSTALLED



A15D3ES

1. O-Ring
 2. Fork Shaft
 3. Fork
 4. Chaincase Cover
 5. Spring Pin (2)
 6. O-Ring
 7. Chain Slider
 8. Self-Tapping Hexagonal Bolt (2)
 9. Flanged Bushing
 10. Lower Sprocket (assembly) (44 teeth)
 11. Cotter Pin
 12. Washer
 13. Coupling Shaft
 14. Sliding Sprocket (56 teeth)
 15. Release Spring
 16. Cap
 17. Spring Lock Washer M10
 18. Hexagonal Bolt M10 x 50
 19. Ring
 20. Drive Sprocket (19 teeth)
 21. Reverse Shaft (assembly)
 22. Rubber Alignment Pin
 23. Reverse Sprocket (19 teeth)
 24. Spacer
 25. Dowel Pin (2)
 26. Hexagonal Bolt M8 x 90
 27. Copper Washer M8
 28. Locking Tab
 29. Back-Up Alarm
 30. Plastic Nut
 31. Switch (assembly)
 32. Nut (2)
 33. Ball Joint RH Side Thread
 34. Welded Handle
 35. Socket Screw M6 x 20
 36. Elastic Stop Nut M6
 37. Tie Rod Jam Nut M6
 38. Flanged Bushing (2)
 39. Handle Support
 40. Washer
 41. Cotter Pin
 42. Locking Tab
 43. Ball Joint LH Side Thread
 44. Jam Nut LH Side Thread
 45. Tie Rod
 46. Hexagonal Bolt M6 x 20
 47. Elastic Stop Nut M6
 48. Handle Grip
 49. Locking Tie (2)
 50. Decal
 51. Dipstick
 52. O-Ring (2)
-

INSTRUCTIONS

Chaincase Preparation

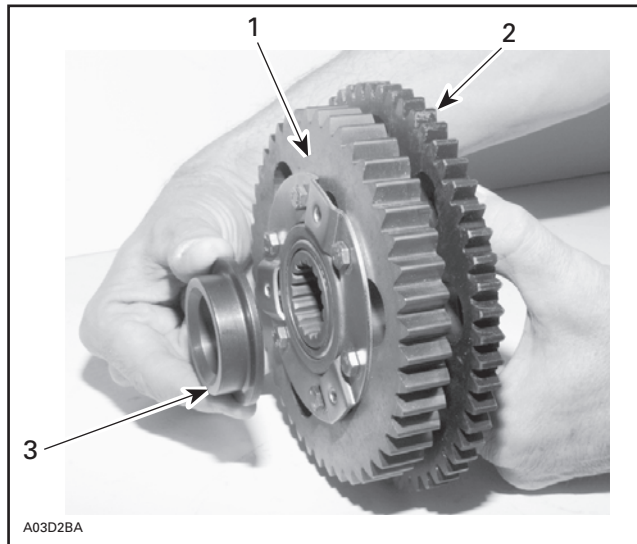
1. Remove tuned pipe(s) and muffler.
2. Remove chain tension.
3. Remove drain plug from chaincase and drain oil.
4. Remove chaincase cover.
5. Remove rubber muffler support from old chaincase cover.
6. Unscrew bolt retaining lower sprocket (M10 x 25). Remove cap, lower sprocket and spacer.
7. Remove cotter pin, nut on countershaft, chain and top sprocket.

Chaincase Cover

1. Install O-ring **no. 1** on fork shaft **no. 2** and spread grease on it.
2. Install fork **no. 3** and shaft in new chaincase cover **no. 4**. Shaft lever must be pointing toward inside cover.
3. Secure with spring pins **no. 5**.
4. Install O-ring **no. 6** in cover.
5. Insert dowel pins **no. 25** into chaincase cover.
6. Install rubber muffler support on new chaincase cover.

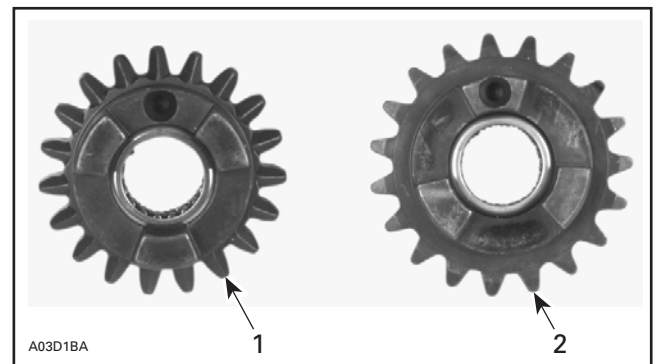
Finalizing Chaincase Assembly

1. Install chain slider **no. 7** and secure with self-tapping hexagonal bolts **no. 8**.
2. Reinstall drain plug and tighten.
3. Install flanged bushing **no. 9** and lower sprocket ass'y **no. 10** over drive axle and properly mesh with chain.



1. 44-teeth gear
2. 56-teeth gear
3. Flanged spacer

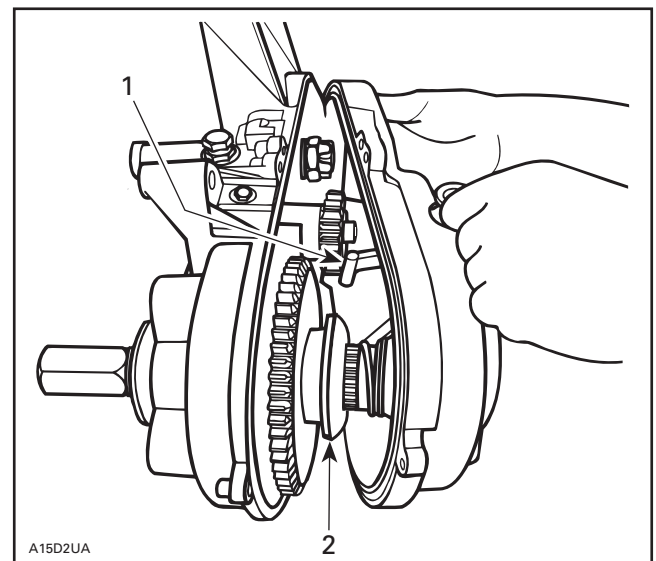
4. Install washer **no. 12** onto coupling shaft **no. 13** then insert on drive axle underneath lower sprocket ass'y.
5. Reinstall spacer and upper sprocket, then torque castellated nut to 75 N•m (55 lbf•ft). Secure nut with a new cotter pin **no. 11**.
6. On reverse shaft **no. 21**, install ring **no. 19** with drive sprocket **no. 20** and install shaft in chaincase housing making sure to properly position spring pin in housing slot.
7. Install sliding sprocket **no. 14**, release spring **no. 15**, cap **no. 16**, spring lock washer **no. 17** and hexagonal bolt **no. 18**.
8. Apply Loctite 271 (red) on bolt threads, use sparingly. Torque bolt 42 to 45 N•m (31 to 33 lbf•ft).
9. Install rubber alignment pin **no. 22** and reverse sprocket **no. 23**. Drive sprocket hole and reverse gear hole must be aligned to insert rubber alignment pin.
10. Install spacer washer **no. 24**.



1. Reverse sprocket (hole between dogs)
2. Drive sprocket (hole on dog)

11. Fully tighten chain adjusting screw by hand, then back off only far enough for hair pin to engage in locking hole.
12. Join new chaincase cover to chaincase by passing fork tabs behind sliding sprocket lip. Take care to avoid losing dowel pins.

CAUTION: Chaincase cover must completely lay against chaincase.



1. Fork tabs
2. Sliding sprocket lip

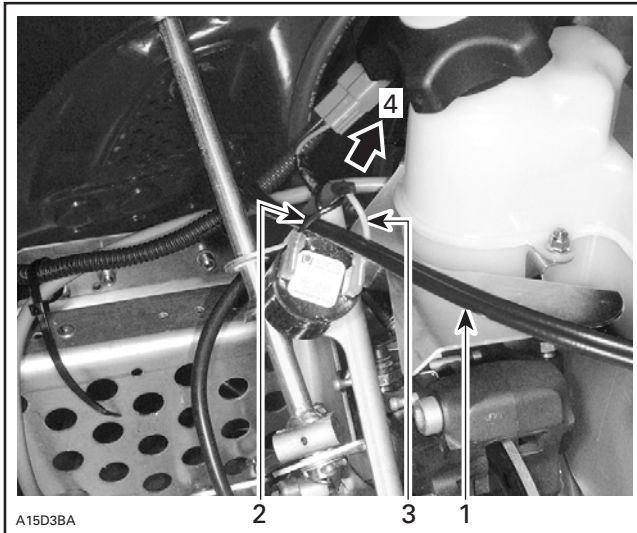
13. Tighten chaincase bolts in a criss-cross sequence beginning with top center.
14. Install reverse shaft hexagonal bolt **no. 26** with copper washer **no. 27** against chaincase cover and locking tab **no. 28** against bolt head. Position angle end of tab to rear then torque bolt 13.5 to 17 N•m (123 to 155 lbf•in). Bend locking tab against bolt head.

SHIFTING LINKAGE ASSEMBLY

1. Screw jam nut **no. 37** to ball joint **no. 33** then ball joint to tie rod **no. 45** upper end.
2. Screw jam nut **no. 44** to ball joint **no. 43** then ball joint to tie rod lower end.
3. Secure lower ball joint to fork shaft using hexagonal bolt **no. 46** and elastic stop nut **no. 47**. Both jam nuts **no. 37** and **no. 44** will serve as shifter rod (bar) adjusters.
4. Install 2 flanged bushings **no. 38** into handle support **no. 39** (from inside) and insert welded handle **no. 34**. Install washer **no. 40** on the outside and secure with cotter pin **no. 41**.

Back-Up Alarm Installation

1. Install back-up alarm **no. 29** into hole provided in handle support, secure using plastic nut **no. 30**. Refer to following illustration.

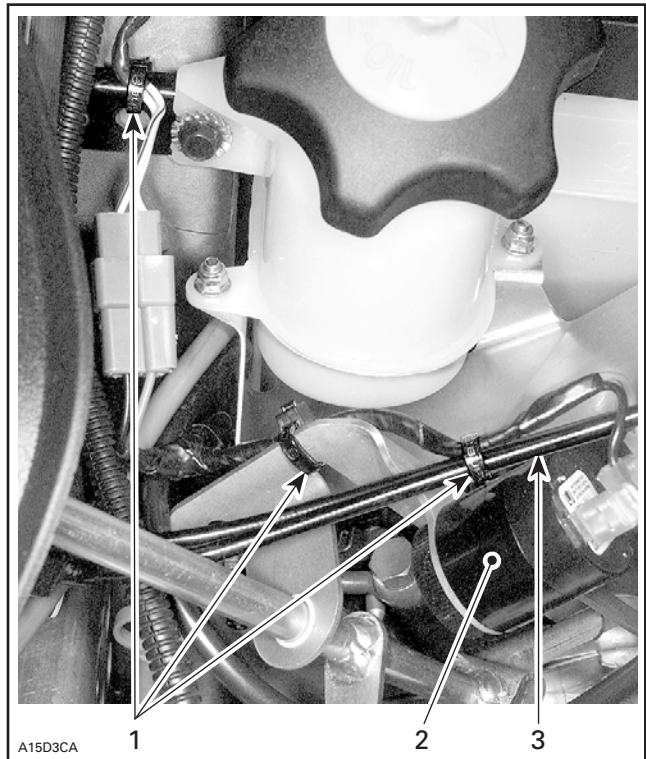


1. Choke cables
2. Wire above choke cables
3. Wire under choke cables
4. Secure back-up alarm in this angle

2. Install switch assembly **no. 31** into hole provided in handle support and secure using nut **no. 32**.

SHIFTING LINKAGE ASSEMBLY INSTALLATION

1. Drill 12.5 mm (1/2 in) hole in console. Refer to alignment embossment behind console for positioning.
2. Release locking tabs then remove bolts that are retaining brake caliper to chaincase.
3. Slide handle portion of shifting linkage ass'y through hole in console. Position handle support so as the 2 lower holes align with existing holes for brake caliper.
4. Install locking tab **no. 42** and secure using existing bolts. Bend locking tabs into place.
5. Insert ball joint **no. 33** in welded handle, secure with socket screw **no. 35** (head down) and elastic stop nut **no. 36**.
6. Install handle grip **no. 48** on welded handle.
7. Connect terminals to the alarm, make sure that RED/BLEU wire is connected to alarm negative post. Connect tab connector housing to vehicle harness. Secure wiring harness with locking ties **no. 49**, as per following illustration.



1. Locking ties
2. Back-up alarm
3. Choke cables

ADJUSTMENTS

1. Shift into reverse gear.

NOTE: If it is impossible to shift into reverse gear, shorten tie-rod and try again. Turn the brake disk to free the gears. If it is still impossible, check if the fork engages in the sliding gear or disassemble the cover to inspect components.

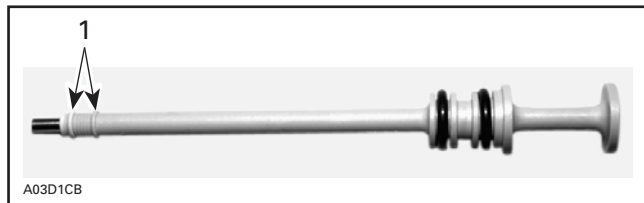
2. Completely loosen tie rod jam nut **no. 37** on the gear shift linkage.
3. Turn shifter handle in reverse position making sure all play is removed.

NOTE: It is normal to feel a slight friction when shifting into gear.

4. Statically test transmission operation in forward and reverse positions.
5. Hold linkage and tighten tie rod jam nut **no. 37**.
6. Adjust back-up alarm so that it sounds when transmission is in reverse gear while engine is running.
7. Install decal **no. 50** on console above handle.

FILLING WITH OIL

1. Fill chaincase with chaincase synthetic oil (P/N 413 803 300). Oil capacity is approximately 250 mL (8 oz).
2. Install O-rings **no. 52** on new dipstick **no. 51**.
3. Check oil level with new dipstick, oil level must be between the marks.



1. *Oil level marks*

4. Reinstall tuned pipe(s) and muffler.
5. Test drive to ensure proper operation of transmission.

860 424 000

1.	414 773 200	O-Ring	Joint torique
2.	504 151 806	Fork Shaft	Arbre de fourchette
3.	504 075 800	Fork	Fourchette
4.	504 151 845	Chaincase Cover	Couvercle du carter de chaîne
5.	414 772 500	Spring Pin (2)	Goupille-ressort (2)
6.	415 046 400	O-Ring	Joint torique
7.	504 151 808	Chain Slider	Coulisseau de chaîne
8.	210 251 180	Self-Tapping Hexagonal Bolt (2)	Boulon hexagonal autotaraudeur (2)
9.	504 076 300	Flanged Bushing	Douille à épaulement
10.	581 095 900	Lower Sprocket (assembly) (44 teeth)	Pignon inférieur (complet) (44 dents)
11.	371 801 300	Cotter Pin	Goupille fendue
12.	504 094 300	Washer	Rondelle
13.	504 097 700	Coupling Shaft	Arbre d'accouplement
14.	504 096 800	Sliding Sprocket (56 teeth)	Pignon coulissant (56 dents)
15.	504 096 600	Release Spring	Ressort de rappel
16.	504 151 964	Cap	Capuchon
17.	234 100 602	Spring Lock Washer M10	Rondelle à ressort M10
18.	207 005 044	Hexagonal Bolt M10 x 50	Boulon hexagonal M10 x 50
19.	504 078 700	Ring	Bague
20.	581 098 200	Drive Sprocket (19 teeth)	Pignon d'entraînement (19 dents)
21.	504 151 972	Reverse Shaft (assembly)	Arbre de marche arrière (complet)
22.	570 048 600	Rubber Alignment Pin	Tige d'alignement de caoutchouc
23.	581 122 200	Reverse Sprocket (19 teeth)	Pignon de marche arrière (19 dents)
24.	504 077 300	Spacer	Entretoise
25.	732 620 001	Dowel Pin (2)	Goupille d'assemblage (2)
26.	207 089 044	Hexagonal Bolt M8 x 90	Boulon hexagonal M8 x 90
27.	504 082 900	Copper Washer M8	Rondelle de cuivre M8
28.	504 087 700	Locking Tab	Patte de verrouillage
29.	414 792 102	Back-Up Alarm	Avertisseur de marche arrière
30.	414 805 101	Plastic Nut	Écrou de plastique
31.	515 175 318	Switch (assembly)	Interrupteur (complet)
32.	250 100 012	Nut (2)	Écrou (2)
33.	414 773 400	Ball Joint RH Side Thread	Joint à rotule à filetage à DROITE
34.	504 151 810	Welded Handle	Poignée soudée
35.	205 062 060	Socket Screw M6 x 20	Vis à tête creuse M6 x 20
36.	232 561 414	Elastic Stop Nut M6	Écrou d'arrêt élastique M6

860 424 000

37.	232 061 414	Tie Rod Jam Nut M6	Contre-écrou de la barre d'accouplement M6
38.	504 151 818	Flanged Bushing (2)	Douille à épaulement (2)
39.	504 151 823	Handle Support	Support de poignée
40.	503 189 264	Washer	Rondelle
41.	371 800 800	Cotter Pin	Goupille fendue
42.	507 029 900	Locking Tab	Patte de verrouillage
43.	414 773 500	Ball Joint LH Side Thread	Joint à rotule à filetage à GAUCHE
44.	232 066 414	Jam Nut LH Side Thread	Contre-écrou à filetage à GAUCHE
45.	504 151 814	Tie Rod	Barre d'accouplement
46.	207 162 044	Hexagonal Bolt M6 x 20	Boulon hexagonal M6 x 20
47.	232 561 600	Elastic Stop Nut M6	Écrou d'arrêt élastique M6
48.	570 064 600	Handle Grip	Poignée
49.	414 115 200	Locking Tie (2)	Attache (2)
50.	516 000 458	Decal	Autocollant
51.	504 151 750	Dipstick	Jauge de niveau d'huile
52.	414 969 400	O-Ring (2)	Joint torique (2)



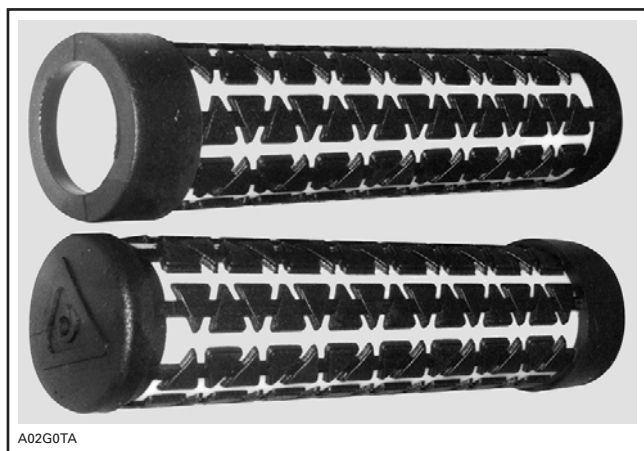
HANDLE GRIPS
(P/N 860 601 500) RED
(P/N 860 601 600) YELLOW

WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. This instruction sheet should be given to the purchaser. This kit is designed for specific applicable models only. It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 0.4 hour.

PARTS TO BE INSTALLED



1. **Red Grips (2) (P/N 860 601 500) or**
Yellow Grips (2) (P/N 860 601 600)

INSTRUCTIONS

Remove existing grips by making an incision in them, very gradually and cautiously to avoid damaging heating element.

CAUTION: Cutting existing grips without taking proper care will cause irreversible damages to heating element.

Clean element and handle surfaces with a clean cloth impregnated with isopropyl alcohol.

Block small hole with a finger and pour 2 mL of isopropyl alcohol into grips.

Block both ends of grips and shake in order to get isopropyl alcohol onto entire inner surface; empty remaining alcohol onto cloth.

Before alcohol completely evaporates, push grips onto handle making sure to align design properly.

Set aside to dry for a period of 24 hours before use.



**ELECTRIC STARTER KIT
(P/N 860 702 200)**

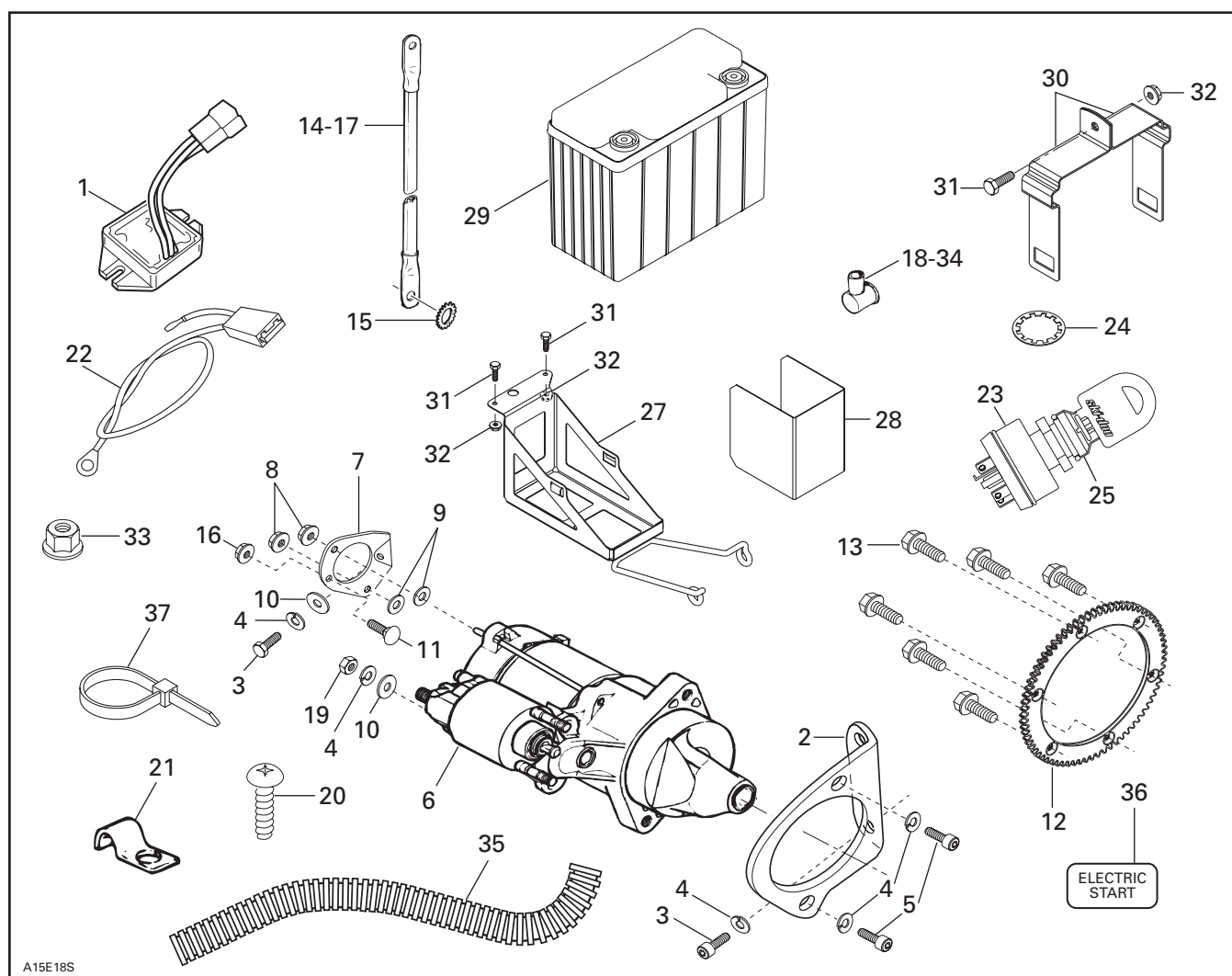
⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. Torque wrench tightening specifications must strictly be adhered to; refer to table at the end of this document. This instruction sheet should be given to the purchaser.

This kit is designed for specific applicable models only (your authorized Ski-Doo snowmobile dealer will confirm models). It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 2.5 hours.

PARTS TO BE INSTALLED



1. Regulator/Rectifier
2. Starter Support PTO Side
3. M8 x 20 Hexagonal Screw (3)
4. M8 Lock Washer (6)
5. M8 x 25 Hexagonal Screw (2)
6. Starter
7. Starter Support MAG Side
8. M5 Flanged Elastic Nut (2)
9. M5 Flat Washer (2)
10. M8 Flat Washer (2)
11. Carriage Bolt
12. Ring Gear
13. M8 x 16 Self-Tapping Screw (6)
14. BLACK Negative Ground Cable
15. M6 Star Washer
16. M6 Flanged Elastic Nut
17. RED Positive Battery Cable
18. Protector Cap (at starter)
19. M8 Hexagonal Nut
20. Self-Tapping Screw
21. Clip
22. Fusible Wiring Harness
23. Switch
24. Lock Washer
25. Face Nut
26. Switch Protector (not illustrated)
27. Battery Seat
28. Deflector
29. Battery
30. Steel Strip (2)
31. M5 x 16 Hexagonal Screw (3)
32. M5 Elastic Stop Nut (3)
33. M10 Hexagonal Nut (2)
34. Protector Cap (at battery)
35. Tubing
36. Decal
37. Locking Tie (8)

INSTRUCTIONS

Vehicle Preparation

Remove tuned pipe, muffler, belt guard, drive belt, air intake silencer.

Loosen drive pulley retaining screw for later removal.

Regulator/Rectifier

Remove original regulator/rectifier, located along RH side member of frame. Secure regulator/rectifier **no. 1** on both sides with same self-tapping bolts.

Apply silicone dielectric grease (P/N 293 550 004) in regulator/rectifier connector and then connect it to vehicle harness connector. Secure connectors with a locking tie **no. 37**.

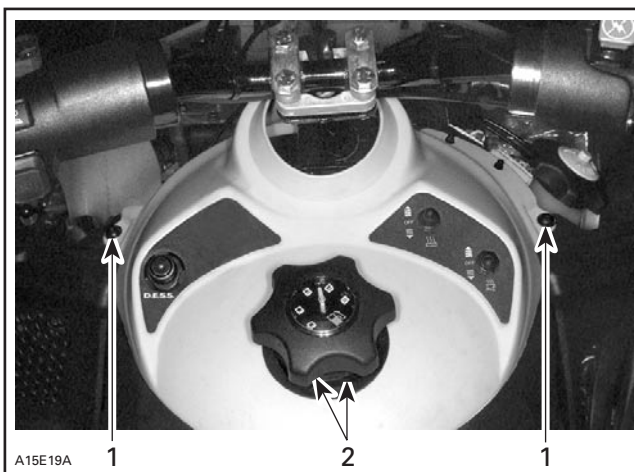
Ignition Switch

Remove steering pad.

Remove upper screw retaining both left and right consoles.

Remove fuel tank cap and retaining ring.

Using template, found on the last page of the current document, properly positioned on dash, mark center hole for switch location, beside DESS connector.

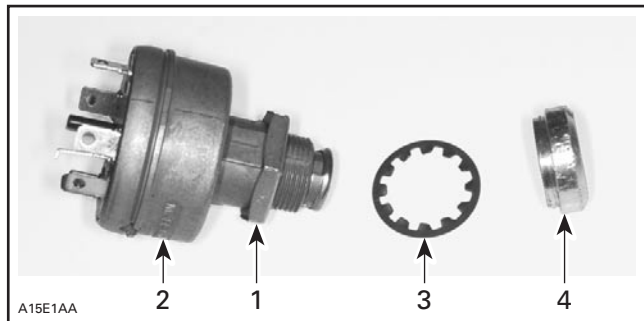


WITH STEERING PAD REMOVED

1. Remove these screws
2. Remove cap and retaining ring

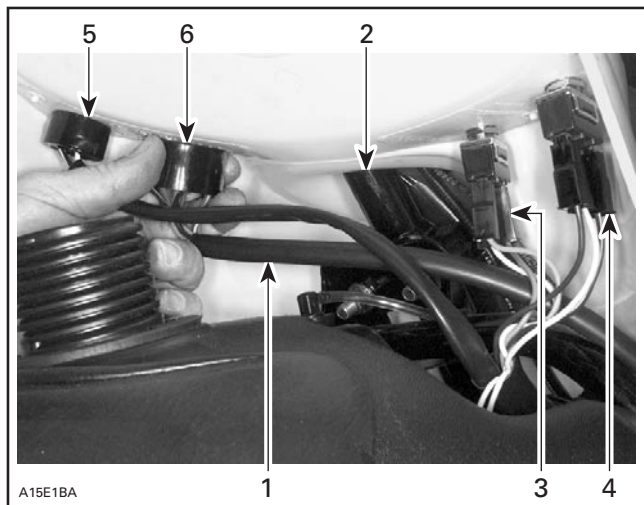
Using a 19 mm (3/4 in) hole saw, drill through dash.

Tighten nut onto ignition switch **no. 23**, slide star lock washer **no. 24** onto switch then insert switch through hole from underneath and secure on top with face nut **no. 25**.



1. Nut
2. Ignition switch
3. Star lock washer
4. Face nut

Install switch protector **no. 26** on top of switch. Connect fusible wiring harness **no. 22** to ignition switch then, lift dash and route wiring harness behind steering column but in front of heated thumb/handle connectors, leading toward battery area.

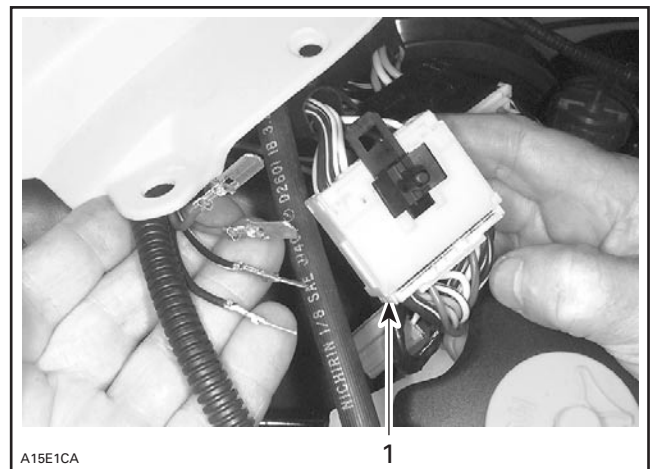


1. Fusible wiring harness
2. Steering column
3. Heated handle connector
4. Heated thumb connector
5. DESS connector
6. Ignition switch connector

Open multi-connector and insert terminals in proper holes as follows:

BLACK wire in hole no. 15
BLACK/YELLOW wire in hole no. 14
RED/BLUE wire in hole no. 13 and
RED/GREEN wire in hole no. 11.

Close multi-connector.



1. Use this multi-connector

Ring Gear

Remove drive pulley. Refer to appropriate *Shop Manual* to perform drive pulley disassembly/assembly procedures and to proceed with pulley alignment.

Secure ring gear **no. 12** on inner half using M8 x 16 self-tapping screws **no. 13**. Apply Loctite[†] 271 (red) on screw threads.

CAUTION: Loctite 271 (red) must be applied to safely assemble ring gear.

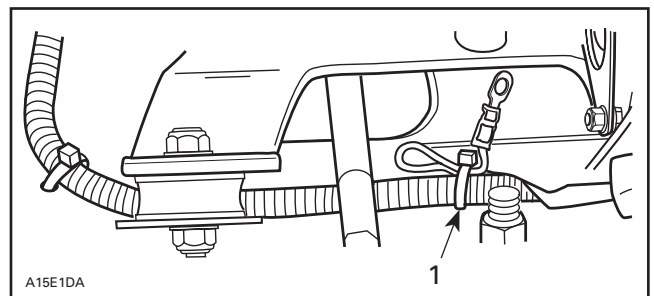
Torque screws in a criss-cross sequence to 27 N•m (20 lbf•ft).

Do not reinstall drive pulley at this time.

Electric Starter

CAUTION: Apply Loctite 271 (red) on all fastener threads of starter supports.

From main harness underneath engine cut locking tie and pull out black wire with the eyelet terminal toward the starter position.



1. Locking tie

[†] Loctite is a trademark of Loctite Corporation.

Install starter support PTO side **no. 2** to engine using M8 x 20 hexagonal screws **no. 3** and M8 lock washers **no. 4**. Tighten firmly.

Install electric starter **no. 6** on support, bottom bolts first and secure it using M8 x 25 hexagonal screws **no. 5** and M8 lock washers **no. 4**.

Install M5 flat washers **no. 9** over nuts of starter through bolts.

Install starter support MAG side **no. 7** to starter after inserting carriage bolt **no. 11**, and secure with M5 flanged elastic nuts **no. 8**.

Secure support to engine with M8 x 20 hexagonal screw **no. 3**, M8 flat washer **no. 10** and M8 lock washer **no. 4**.

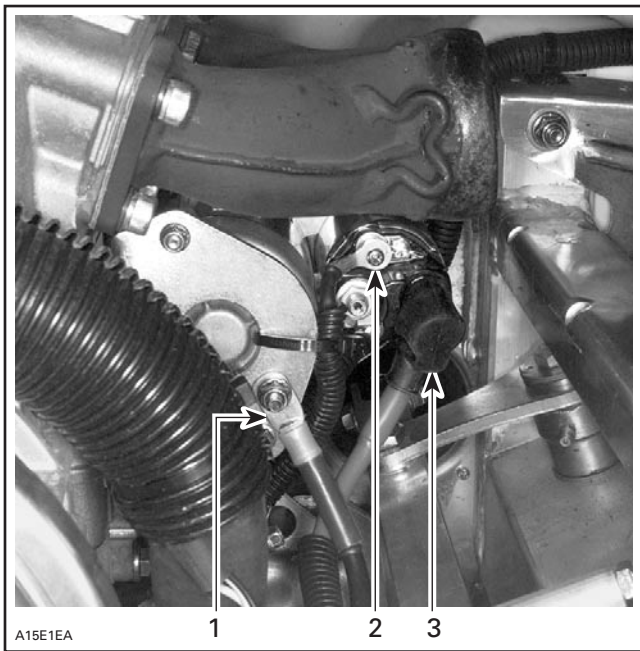
Wire/Cable Connections and Routing

Starting from starter location, route battery cables toward battery location along vehicle harness. The biggest hole of the RED positive cable connects to the starter.

Slide tubing **no. 35** protector cap **no. 18** (starter end of cable) and protector cap **no. 34** (battery end of cable) on RED positive battery cable **no. 17**. Install cable, M8 flat washer **no. 10**, M8 lock washer **no. 4** and M8 hexagonal nut **no. 19** to starter solenoid, turn cable angle as much as possible towards the engine. Cover terminal with previously installed protector cap.

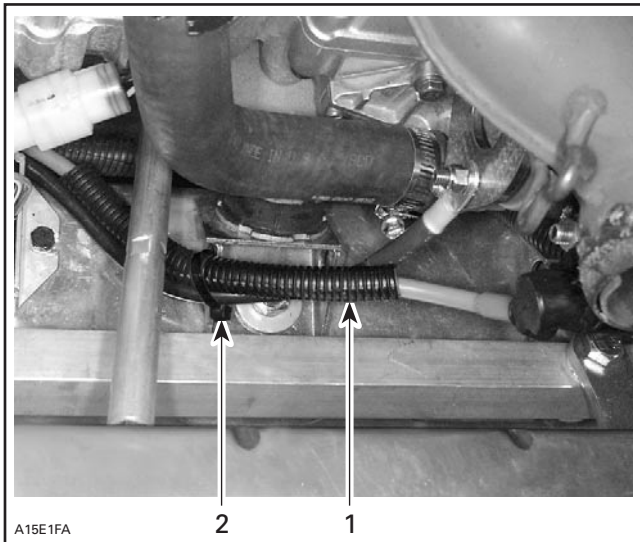
Connect and secure black wire with eyelet terminal, previously pulled from main harness, to starter solenoid.

Connect battery BLACK negative ground cable **no. 14** to starter bracket carriage bolt using M6 star washer **no. 15** between bracket and terminal; secure with M6 flanged elastic nut **no. 16**.



1. BLACK negative cable connected to starter support MAG side
2. BLACK wire with eyelet terminal connected to solenoid
3. RED positive cable connected to solenoid

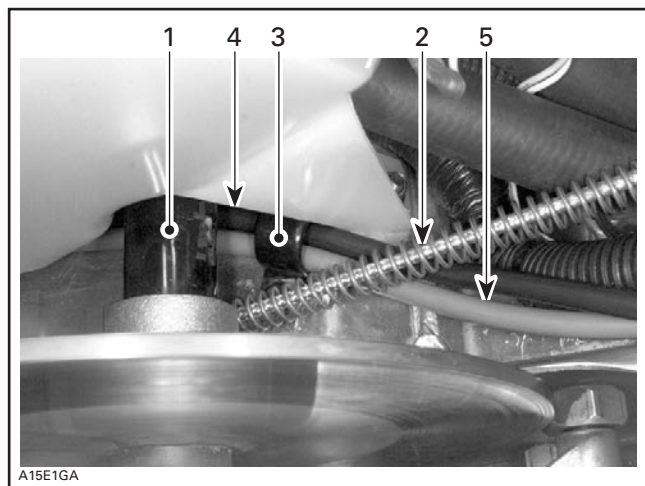
Route both cables toward battery alongside engine harness and secure with locking ties **no. 37** every 152 mm (6 in) more or less.



1. Tubing **no. 35**
2. Locking tie

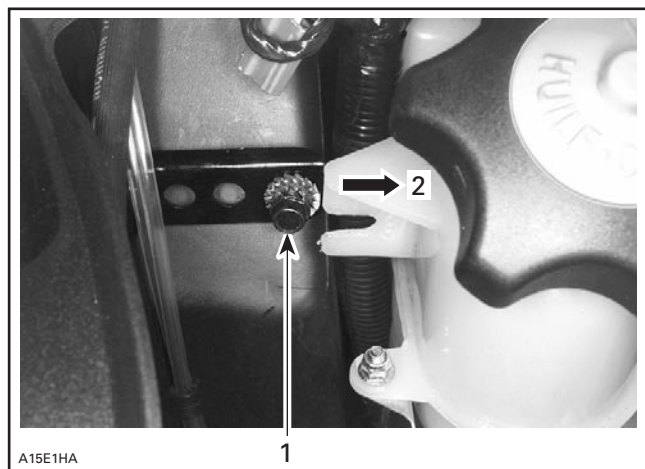
Cables must pass underneath rewind starter cord, under countershaft, behind oil reservoir and on top of choke cables, toward battery.

Drill a 5.12 mm (13/64 in) hole and retain both cables with clip **no. 21** at the rewind starter cord area, using self-tapping screw **no. 20**.



1. Countershaft
2. Rewind starter rope
3. Clip **no. 21**
4. **BLACK** negative cable
5. **RED** positive cable

To ease cable routing, undo coolant reservoir retaining screw just enough to push reservoir forward a bit.



1. Loosen this bolt
2. Move a bit forward

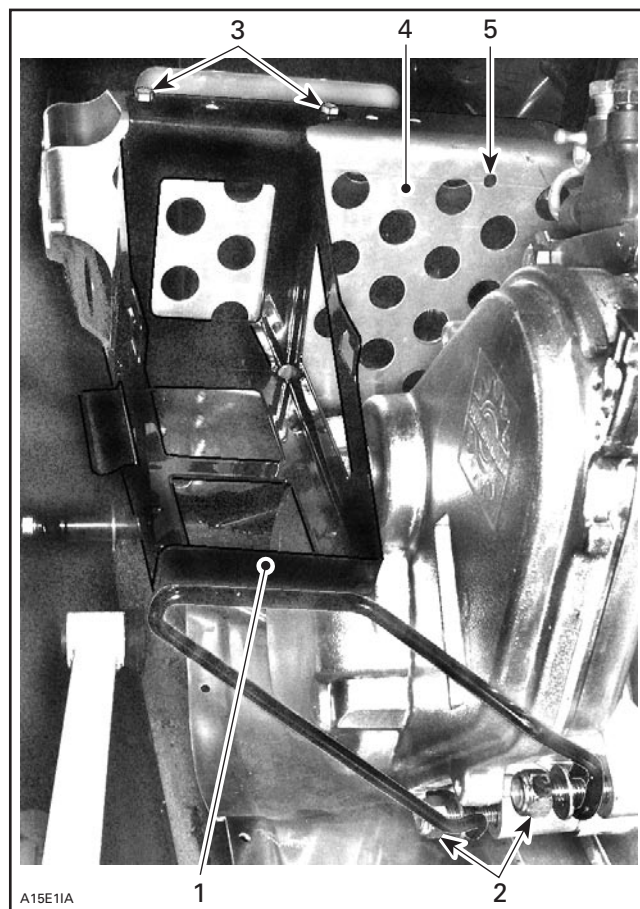
⚠ WARNING

Ensure all terminals are properly crimped on wires/cables and that all connector housings are properly fastened. Keep wires away from any rotating, moving, heating, vibrating and sharp edge parts. Use proper fastening devices as required.

Battery and Rack

Remove 2 lower nuts retaining chaincase cover.

Install battery seat **no. 27** as shown and secure with 2 M5 x 16 hexagonal screws **no. 31** and 2 M5 elastic stop nuts **no. 32** on top of right front foot rest and reinstall new chaincase cover M10 hexagonal nuts **no. 33**.



1. Battery seat
2. Change these 2 nuts
3. Secure with 2 M5 x 16 hexagonal screws **no. 31** and 2 M5 elastic stop nuts **no. 32**
4. Footrest
5. Ground hole

Install battery **no. 29** in seat, posts on engine side, with deflector **no. 28**.

Connect RED positive battery cable and RED wire with fuse (from ignition switch harness) to battery then connect BLACK ground cable. Secure BLACK negative cable in indentation of the battery retaining steel strip, engine side.

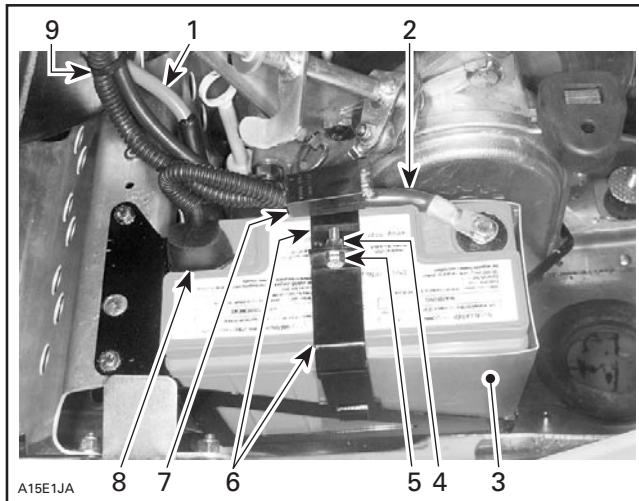
⚠ WARNING

Always connect the battery cables exactly in the specified order. Connect RED positive cable first, then BLACK negative ground cable.

Secure battery in place with steel strips **no. 30**, M5 x 16 hexagonal screw **no. 31** and M5 elastic stop nut **no. 32**.

Hook up fuse holder to retaining steel strip.

Fasten battery cables using a locking tie **no. 37**.



1. RED positive cable
2. BLACK negative cable
3. Deflector **no. 28**
4. Elastic stop nut **no. 32**
5. Hexagonal nut **no. 31**
6. Steel strips **no. 30**
7. Fuse holder
8. Protector cap **no. 34**
9. Locking tie

Finalizing Assembly

Refer to the appropriate *Ski-Doo Shop Manual* for proper reinstallation procedure.

Reinstall drive pulley.

Check pulley alignment.

WARNING

Drive pulley alignment must always be checked whenever pulleys have been removed, replaced or disassembled.

Reinstall remaining removed parts not forgetting to secure coolant reservoir retaining screw.

NOTE: Apply Dow Corning sealer **no. 736 RTV** on exhaust manifold ball joint.

Test electrical starting and ignition cut-out systems as per normal starting procedure for electric starter models.

Decal

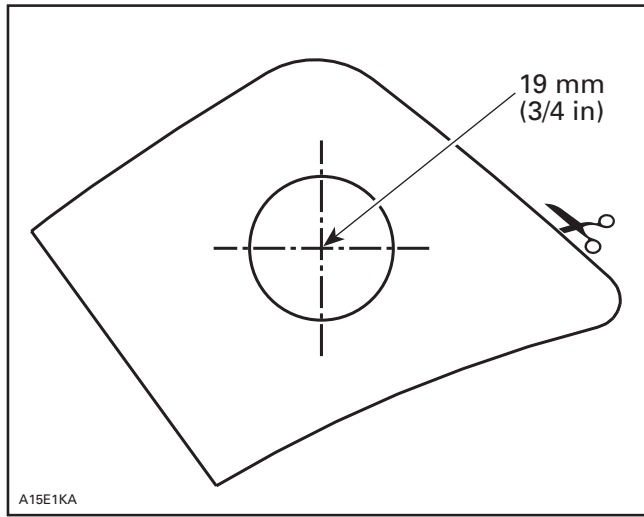
Clean decal region with soapy water or isopropyl alcohol using a soft clean cloth and dry thoroughly.

CAUTION: Do not apply isopropyl alcohol on decal.

Remove backing from decal.

Apply decal **no. 36** on left side of hood.

TEMPLATE



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PURPOSELY BLANK

The following table is to be consulted if and when a tightening torque is required but not specified.

Bold face size indicates nominal value (mean value).

N•m	FASTENER SIZE (8.8 grade)	Lbf•in
2	M4	18
3	M4	27
4	M5	35
8	M6	71
9	M6	80
10	M6	89
11	M6	97
12	M6	106

N•m	FASTENER SIZE (8.8 grade)	Lbf•ft
21	M8	15
22	M8	16
23	M8	17
24	M8	18
25	M8	18
43	M10	32
44	M10	32
45	M10	33
46	M10	34
47	M10	35
48	M10	35
49	M10	36
50	M10	37
51	M10	38
52	M10	38
53	M10	39
76	M12	56
77	M12	57
78	M12	58
79	M12	58

N•m	FASTENER SIZE (8.8 grade)	Lbf•ft
80	M12	59
81	M12	60
82	M12	60
83	M12	61
84	M12	62
121	M14	89
122	M14	90
123	M14	91
124	M14	91
125	M14	92
126	M14	93
127	M14	94
128	M14	94
129	M14	95
130	M14	96
131	M14	97
132	M14	97
133	M14	98
134	M14	99
135	M14	100
136	M14	100
137	M14	101
138	M14	102
139	M14	103
140	M14	103
141	M14	104
142	M14	105
143	M14	105
144	M14	106
145	M14	107
146	M14	108
147	M14	108
148	M14	109
149	M14	110
150	M14	111

860 702 200

1.	515 175 217	Regulator/Rectifier	Régulateur/redresseur
2.	515 175 142	Starter Support PTO Side	Support de démarreur, côté PDM
3.	207 182 044	M8 x 20 Hexagonal Screw (3)	Vis hexagonale M8 x 20 (3)
4.	234 181 401	M8 Lock Washer (6)	Rondelle-frein M8 (6)
5.	207 182 544	M8 x 25 Hexagonal Screw (2)	Vis hexagonale M8 x 25 (2)
6.	515 175 564	Starter	Démarreur
7.	515 175 143	Starter Support MAG Side	Support de démarreur, côté MAG
8.	233 251 414	M5 Flanged Elastic Nut (2)	Écrou élastique à épaulement M5 (2)
9.	391 301 700	M5 Flat Washer (2)	Rondelle plate M5 (2)
10.	234 081 410	M8 Flat Washer (2)	Rondelle plate M8 (2)
11.	207 762 044	Carriage Bolt	Boulon de carrosserie
12.	417 300 057	Ring Gear	Couronne de lancement
13.	236 281 684	M8 x 16 Self-Tapping Screw (6)	Vis autotaraudeuse M8 x 16 (6)
14.	515 175 168	BLACK Negative Ground Cable	Câble de masse négatif NOIR
15.	394 001 900	M6 Star Washer	Rondelle en étoile M6
16.	233 261 414	M6 Flanged Elastic Nut	Écrou élastique à épaulement M6
17.	515 175 167	RED Positive Battery Cable	Câble positif de batterie ROUGE
18.	570 064 200	Protector Cap (at starter)	Capuchon de protection (démarreur)
19.	232 081 414	M8 Hexagonal Nut	Écrou hexagonal M8
20.	210 361 280	Self-Tapping Screw	Vis autotaraudeuse
21.	415 018 200	Clip	Pince
22.	515 175 171	Fusible Wiring Harness	Faisceau de fils de fusible
23.	410 113 602	Switch	Interrupteur
24.	394 103 300	Lock Washer	Rondelle-frein
25.	410 112 100	Face Nut	Écrou
26.	570 013 700	Switch Protector (not illustrated)	Cache d'interrupteur (non illustrée)
27.	515 175 243	Battery Seat	Siège de batterie
28.	515 175 363	Deflector	Déflecteur
29.	710 000 283	Battery	Batterie
30.	515 175 226	Steel Strip (2)	Bande d'acier (2)
31.	207 151 644	M5 x 16 Hexagonal Screw (3)	Vis hexagonale M5 x 16 (3)
32.	233 251 414	M5 Elastic Stop Nut (3)	Écrou d'arrêt élastique M5 (3)
33.	233 601 416	M10 Hexagonal Nut (2)	Écrou hexagonal M10 (2)
34.	570 151 000	Protector Cap (at battery)	Capuchon de protection (batterie)
35.	415 079 900	Tubing	Tube
36.	418 001 300	Decal	Autocollant
37.	414 115 200	Locking Tie (8)	Attache (8)

**ELECTRIC STARTER KIT
(P/N 861 504 200)**

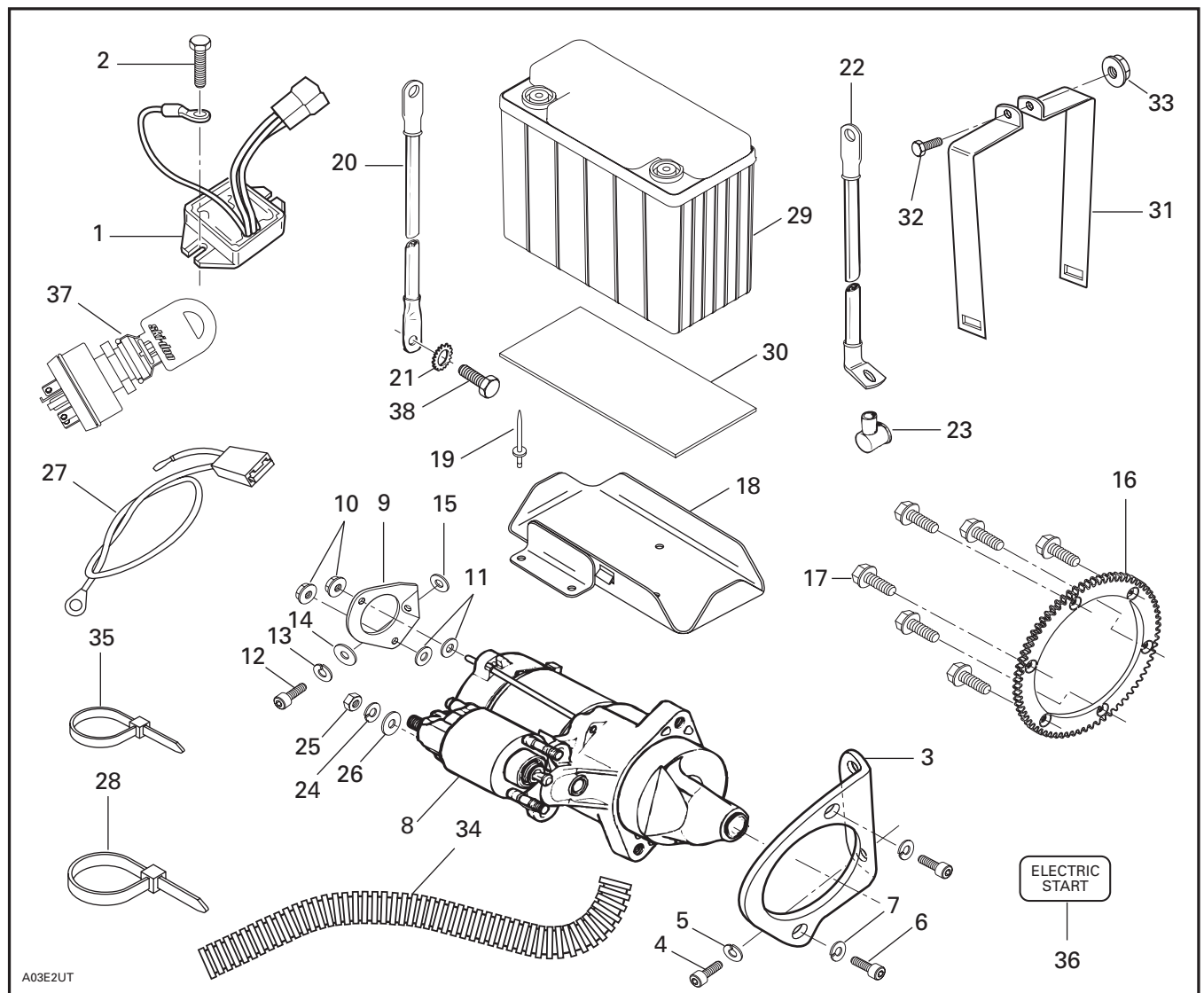
⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. Torque wrench tightening specifications must strictly be adhered to; refer to table at the end of this document. This instruction sheet should be given to the purchaser.

This kit is designed for specific applicable models only (your authorized Ski-Doo snowmobile dealer will confirm models). It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 2.5 hours.

PARTS TO BE INSTALLED



1. Regulator/Rectifier
2. M6 x 16 Self-Tapping Screw (2)
3. Starter Support PTO Side
4. M8 x 20 Socket Screw (2)
5. M8 Lock Washer (2)
6. M8 x 25 Socket Screw (2)
7. M8 Lock Washer (2)
8. Starter
9. Starter Support MAG Side
10. M5 Flanged Elastic Nut (2)
11. M5 Flat Washer (2)
12. M8 x 20 Socket Screw
13. M8 Lock Washer
14. M8 Flat Washer
15. Hardened Washer (2)
16. Ring Gear
17. M8 x 16 Self-Tapping Screw (6)
18. Battery Seat
19. 4.7 mm (3/16 in) Rivet (5)
20. Battery Ground Cable (BLACK)

21. M6 Star Washer
22. Battery Positive Cable (RED)
23. Protector Cap (2)
24. M8 Lock Washer
25. M8 Hexagonal Nut
26. M8 Flat Washer
27. Fuse Holder
28. Locking Tie (8)
29. Battery
30. Rubber Insulator
31. Steel Strip (2)
32. M5 x 16 Hexagonal Screw
33. M5 Flanged Elastic Nut
34. Protector Tubing
35. 350 mm (14 in) Locking Tie
36. Decal
37. Ignition Switch
38. M6 x 12 Self-Tapping Screw
39. Elbow Fitting (not illustrated)

VEHICLE PREPARATION

Battery

NOTE: Refer to the *Ski-Doo Shop Manual* for proper battery removal/installation procedure.



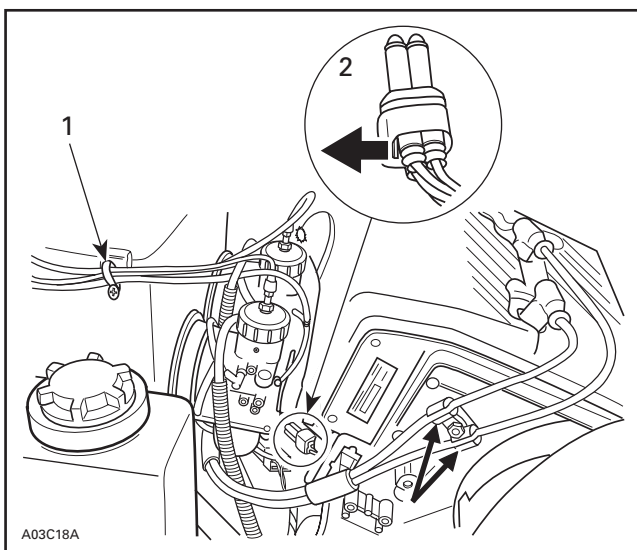
WARNING

Never charge or boost battery while connected or installed in vehicle.

Vehicle

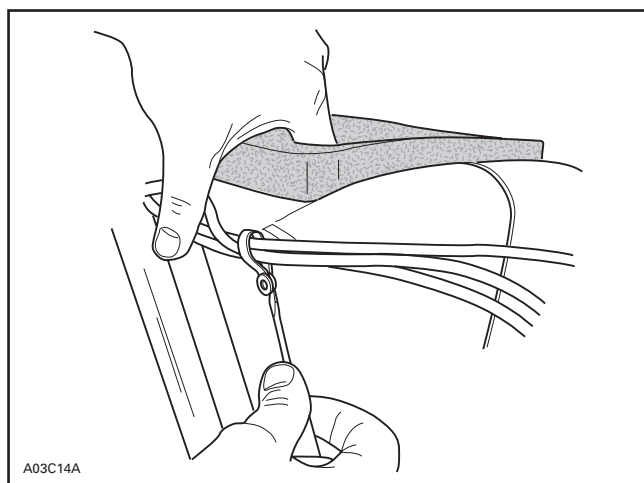
Remove exhaust system, belt guard and drive belt. Unfasten spark plug cables from fan housing. Unplug spark plug caps.

Unplug electronic box harness underneath carburetors by inserting a screwdriver in connector tab and pull tab as illustrated.



1. Plastic clip
2. CDI box harness connector

Open plastic clip that is positioned on air intake silencer. Insert a flat tip screw driver and turn as illustrated.



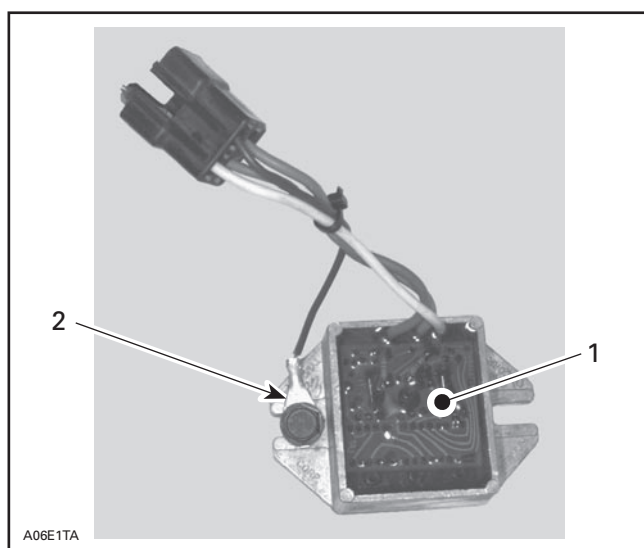
Remove air intake silencer.

Empty fuel tank, change hose fitting with elbow fitting **no. 39**, outlet toward exterior to clear battery corner.

INSTALLATION

Regulator/Rectifier

Remove original regulator/rectifier, located along RH side member of frame. Secure new regulator/rectifier **no. 1** using M6 x 16 self-tapping screws **no. 2**. Use 1 screw to connect ground wire from regulator/rectifier as shown.



1. Regulator/rectifier
2. Connect ground wire here

Apply silicone dielectric grease (P/N 293 550 004) in regulator/rectifier 4-connector housing as well as in vehicle harness 4-connector housing and plug them together.

Ring Gear

Remove drive pulley. Refer to *Shop Manual* to perform drive pulley disassembly/assembly procedures and to proceed with pulley alignment.

Secure ring gear **no. 16** on inner half using 6 M8 x 16 self-tapping screws **no. 17**.

CAUTION: Loctite[†] 271 (red) (adhesive/sealant) must be applied on bolt threads to properly assemble the ring gear.

Torque screws to 27 N•m (20 lbf•ft) in a criss-cross sequence.

Do not reinstall drive pulley at this time.

Ignition Switch

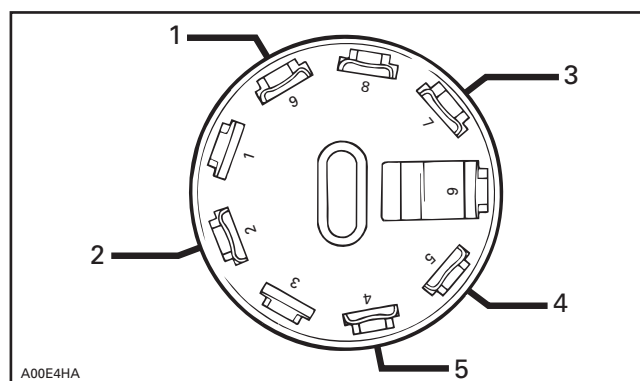
Cut locking tie and unplug switch connector housing from ignition switch.

Install new ignition switch **no. 37**.

Insert shortest wire of fuse holder **no. 27** inside switch connector housing.

Insert connector in position number 7 of switch-connector housing.

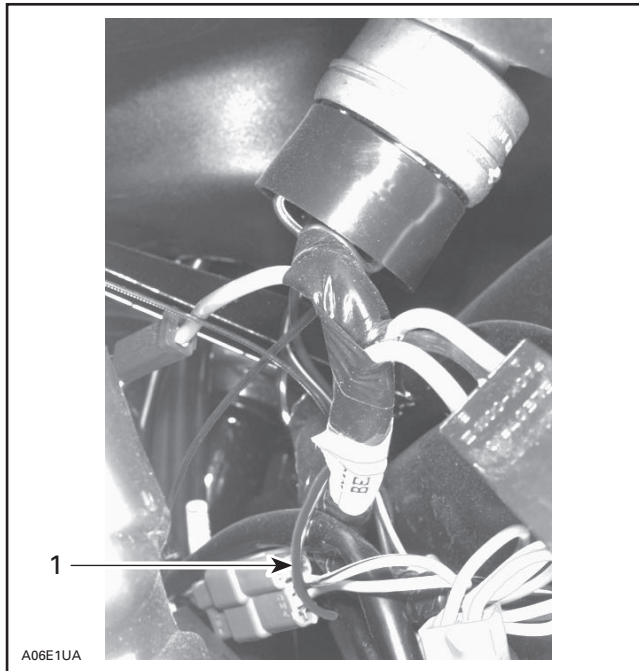
Reposition connectors respecting vehicle connector code as illustrated.



1. RED/GREEN wire to solenoid
2. BLACK/YELLOW
3. RED wire with fuse to battery
4. BLACK
5. RED/BLUE

[†] Loctite is a registered trademark of Loctite Corporation.

Replug switch connector housing to ignition switch and secure wires with a locking tie **no. 28** as shown.



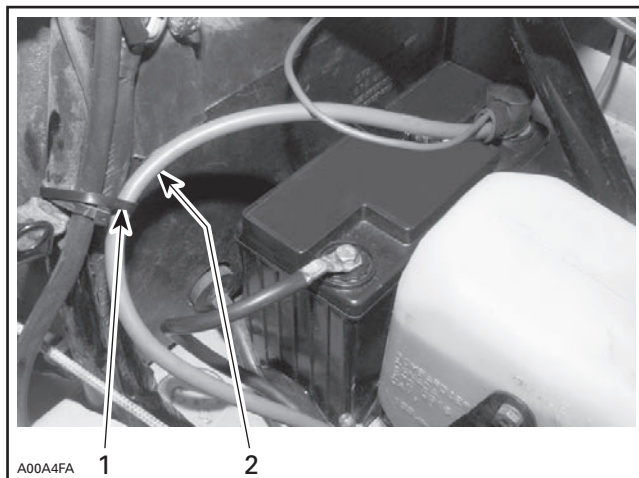
1. Locking tie

Wire/Cable Connections and Routing

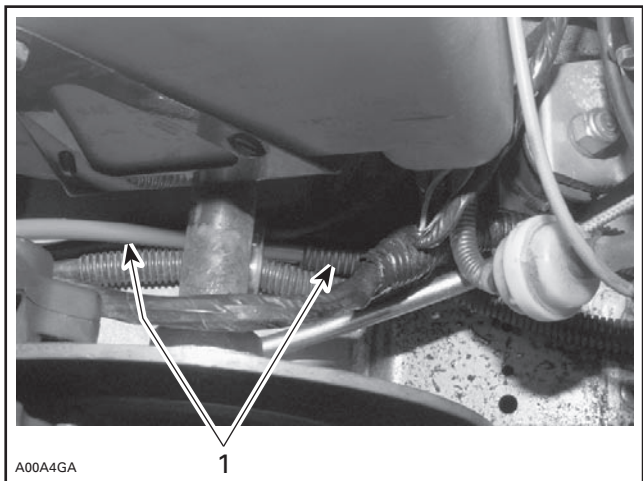
Ensure one connector of battery positive cable (RED) **no. 22** is straight and other connector is bent at 60°. Bend or straighten as required.

Straight connector will be connected to solenoid.

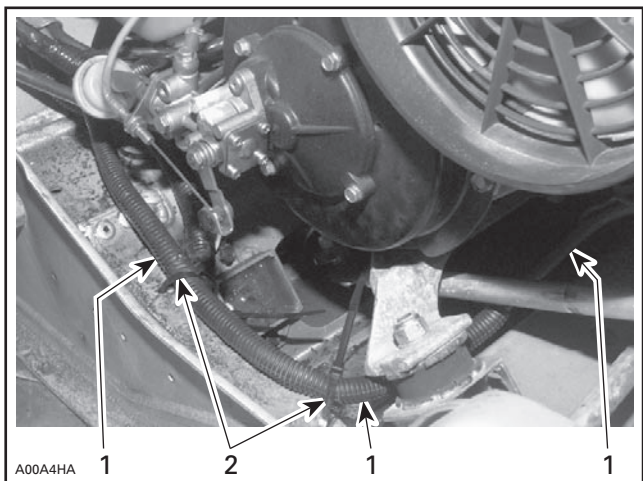
Starting from battery location, route battery positive cable along vehicle harness to starter location. See following illustrations.



1. Secure with locking tie
2. RED positive cable routing



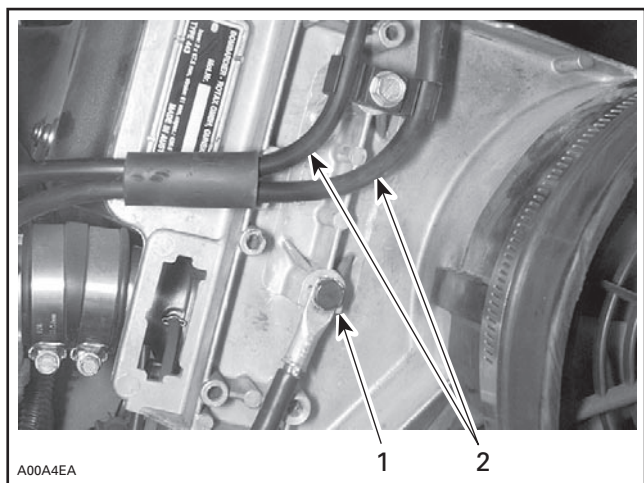
1. RED positive cable routing



1. RED positive cable routing
2. Secure with locking ties

NOTE: Route battery cables through free bracket underneath countershaft.

Connect battery ground cable (BLACK) **no. 20** to side of fan housing using M6 x 12 self-tapping screw **no. 38** and M6 star washer **no. 21**. Refer to next photo.



1. Connect battery ground cable here
2. Spark plug wires

Electric Starter

CAUTION: Apply Loctite 271 (red) (adhesive/sealant) on all fastener threads of starter supports.

Secure starter support **no. 3** (PTO side) to engine using M8 x 20 socket screws **no. 4** and M8 lock washers **no. 5**. Tighten firmly.

Mount electric starter **no. 8** on support. Secure bottom first and then top using M8 x 25 socket screws **no. 6** and M8 lock washers **no. 7**.

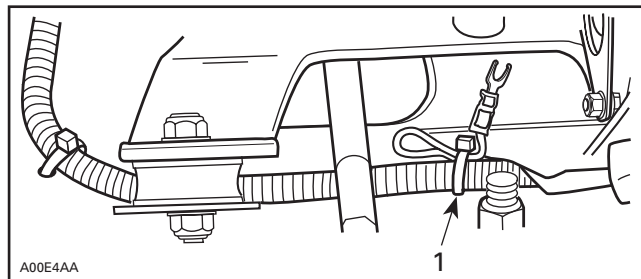
Install M5 flat washers **no. 11** over nuts of starter through bolts (MAG side).

Install starter support **no. 9** (MAG side) to starter and secure with M5 flanged elastic nuts **no. 10**.

If necessary, install hardened washer(s) **no. 15** to fill the gap between support and engine. Secure support to engine with M8 flat washer **no. 14**, M8 lock washer **no. 13** and M8 x 20 socket screw **no. 12**.

Install cable protector tubing **no. 34** then slide protector cap **no. 23** onto RED battery cable **no. 22**. Install RED cable on starter with M8 flat washer **no. 26**, M8 lock washer **no. 24** and M8 hexagonal nut **no. 25**. Bend connectors as required.

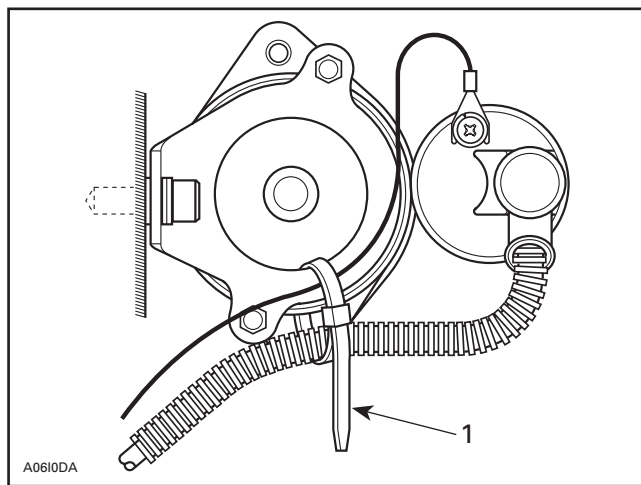
Cut locking tie that is retaining the RED/GREEN wire to wiring harness beneath engine.



1. Cut locking tie

Connect RED/GREEN wire to small post on solenoid. Position connector under lock washer.

Secure cable loosely to rear bracket with a locking tie **no. 28**, as illustrated.



1. Tie loosely

Pull excess amount of cable from underneath engine.

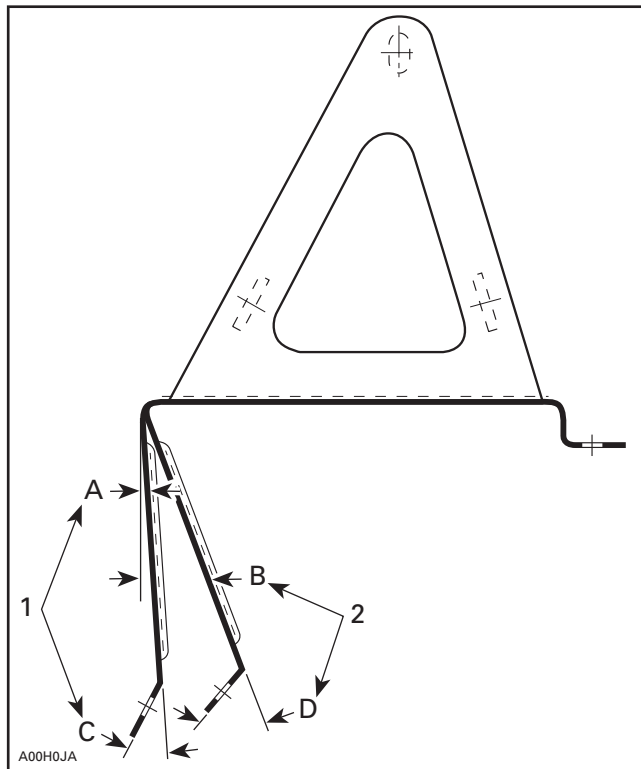
Battery and Rack

CAUTION: Cover carburetor intakes with a clean rag during the following drilling operation.

Remove oil reservoir from its support.

Remove reservoir support (keep bolts for reinstallation), then plate underneath it by drilling out retaining rivets.

Install support in a vice to bend to proper angle, refer to following illustration.



1. Original angles
2. New angles
- A. 4°
- B. 24°
- C. 31.6°
- D. 60°

Join battery seat **no. 18** to oil reservoir support using two 4.7 mm (3/16 in) rivets **no. 19**, making sure that support is mounted on top of battery seat.

Drill out battery vent fitting on body.

Install this assembly in place and secure, in same holes, by using previously removed oil reservoir support bolts.

At battery seat, use existing outer rivet hole as a first hole and drill two 5.2 mm (13/64 in) holes in body then secure with 4.7 mm (3/16 in) rivets **no. 19**.

Install rubber insulator **no. 30** and battery **no. 29** with positive post inside.

Secure battery in place with steel strips **no. 31**, using M5 x 16 hexagonal screw **no. 32** and M5 flanged elastic nut **no. 33**.

Insert protector cap **no. 23** onto red positive cable.

Connect battery RED positive cable and RED wire with fuse from ignition switch to battery post, upward angle, and tighten. Cover battery post with protector cap, then connect BLACK ground cable and secure to battery post.

⚠ WARNING

Always connect battery cables exactly in the specified order. Connect RED positive cable first, then BLACK negative ground cable.

Fasten battery cables using locking tie **no. 35**.

⚠ WARNING

Ensure all terminals are properly crimped on wires/cables and that all connector housings are properly fastened. Keep wires away from any rotating, moving, heating or vibrating parts as well as from sharp edges. Use proper fastening devices as required.

FINALIZING INSTALLATION

NOTE: Refer to the *Ski-Doo Shop Manual* for proper reinstallation procedure.

Reinstall oil reservoir in its support.

Reinstall drive pulley.

Check pulley alignment.

⚠ WARNING

Drive pulley alignment must always be checked whenever pulleys have been removed, replaced or disassembled.

Reinstall remaining removed parts.

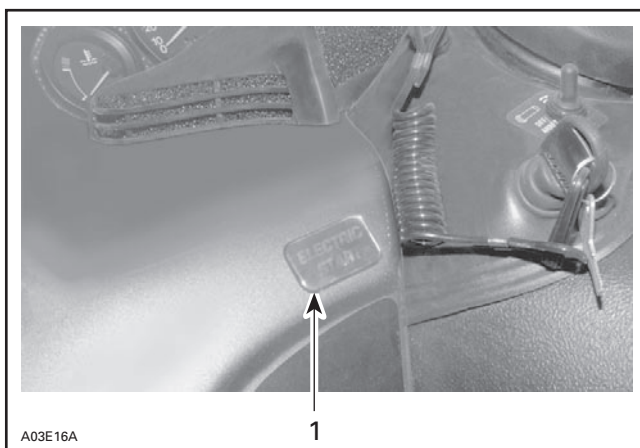
Decal

Clean decal area with soapy water or isopropyl alcohol using a soft clean cloth and dry thoroughly.

CAUTION: Do not apply isopropyl alcohol on decal.

Remove backing from decal.

Apply decal **no. 36** as shown.



1. Decal

The following table is to be consulted if and when a tightening torque is required but not specified.

Bold face size indicates nominal value (mean value).

N•m	FASTENER SIZE (8.8 grade)	Lbf•in
2	M4	18
3	M4	27
4	M5	35
8	M6	71
9	M6	80
10	M6	89
11	M6	97
12	M6	106

N•m	FASTENER SIZE (8.8 grade)	Lbf•ft
21	M8	15
22	M8	16
23	M8	17
24	M8	18
25	M8	18
43	M10	32
44	M10	32
45	M10	33
46	M10	34
47	M10	35
48	M10	35
49	M10	36
50	M10	37
51	M10	38
52	M10	38
53	M10	39
76	M12	56
77	M12	57
78	M12	58
79	M12	58
80	M12	59

N•m	FASTENER SIZE (8.8 grade)	Lbf•ft
81	M12	60
82	M12	60
83	M12	61
84	M12	62
121	M14	89
122	M14	90
123	M14	91
124	M14	91
125	M14	92
126	M14	93
127	M14	94
128	M14	94
129	M14	95
130	M14	96
131	M14	97
132	M14	97
133	M14	98
134	M14	99
135	M14	100
136	M14	100
137	M14	101
138	M14	102
139	M14	103
140	M14	103
141	M14	104
142	M14	105
143	M14	105
144	M14	106
145	M14	107
146	M14	108
147	M14	108
148	M14	109
149	M14	110
150	M14	111

861 504 200

1.	515 175 546	Regulator/Rectifier	Régulateur/redresseur
2.	210 261 680	M6 x 16 Self-Tapping Screw (2)	Vis autotaraudeuse M6 x 16 (2)
3.	420 951 692	Starter Support PTO Side	Support de démarreur (côté PDM)
4.	205 082 044	M8 x 20 Socket Screw (2)	Vis à tête creuse M8 x 20 (2)
5.	420 945 752	M8 Lock Washer (2)	Rondelle-frein M8 (2)
6.	205 082 544	M8 x 25 Socket Screw (2)	Vis à tête creuse M8 x 25 (2)
7.	234 181 401	M8 Lock Washer (2)	Rondelle-frein M8 (2)
8.	410 212 400	Starter	Démarrreur
9.	420 951 702	Starter Support MAG Side	Support de démarreur (côté MAG)
10.	233 251 414	M5 Flanged Elastic Nut (2)	Écrou d'arrêt élastique à épaulement M5 (2)
11.	391 301 700	M5 Flat Washer (2)	Rondelle plate M5 (2)
12.	205 082 044	M8 x 20 Socket Screw	Vis à tête creuse M8 x 20
13.	420 945 752	M8 Lock Washer	Rondelle-frein M8
14.	234 081 410	M8 Flat Washer	Rondelle plate M8
15.	503 007 900	Hardened Washer (2)	Rondelle trempée (2)
16.	415 043 100	Ring Gear	Couronne de lancement
17.	236 281 684	M8 x 16 Self-Tapping Screw (6)	Vis autotaraudeuse M8 x 16 (6)
18.	517 301 700	Battery Seat	Support de batterie
19.	390 402 200	4.7 mm (3/16 in) Rivet (5)	Rivet 4.7 mm (3/16 po) (5)
20.	515 175 287	Battery Ground Cable (BLACK)	Câble de masse de la batterie (NOIR)
21.	394 001 900	M6 Star Washer	Rondelle en étoile
22.	515 175 288	Battery Positive Cable (RED)	Câble positif de la batterie (ROUGE)
23.	570 151 000	Protector Cap (2)	Capuchon de protection (2)
24.	420 945 752	M8 Lock Washer	Rondelle-frein M8
25.	232 081 414	M8 Hexagonal Nut	Écrou hexagonal M8
26.	234 081 410	M8 Flat Washer	Rondelle plate M8
27.	515 157 300	Fuse Holder	Porte-fusible
28.	414 115 200	Locking Tie (8)	Attache (8)
29.	710 000 283	Battery	Batterie
30.	570 070 300	Rubber Insulator	Bande isolante de caoutchouc
31.	517 301 600	Steel Strip (2)	Bande d'acier (2)
32.	207 151 644	M5 x 16 Hexagonal Screw	Vis à tête hexagonale M5 x 16
33.	233 251 414	M5 Flanged Elastic Nut	Écrou d'arrêt élastique à épaulement M5
34.	409 901 800	Protector	Gaine de protection
35.	293 750 008	350 mm (14 in) Locking Tie	Attache de 350 mm (14 po)
36.	418 001 300	Decal	Autocollant
37.	410 111 300	Ignition Switch	Interrupteur d'allumage
38.	210 361 280	M6 x 12 Self-Tapping Screw	Vis autotaraudeuse M6 x 12
39.	414 580 600	Elbow Fitting (not illustrated)	Raccord coudé (non illustré)



**ELECTRIC STARTER KIT
(P/N 861 504 300)**

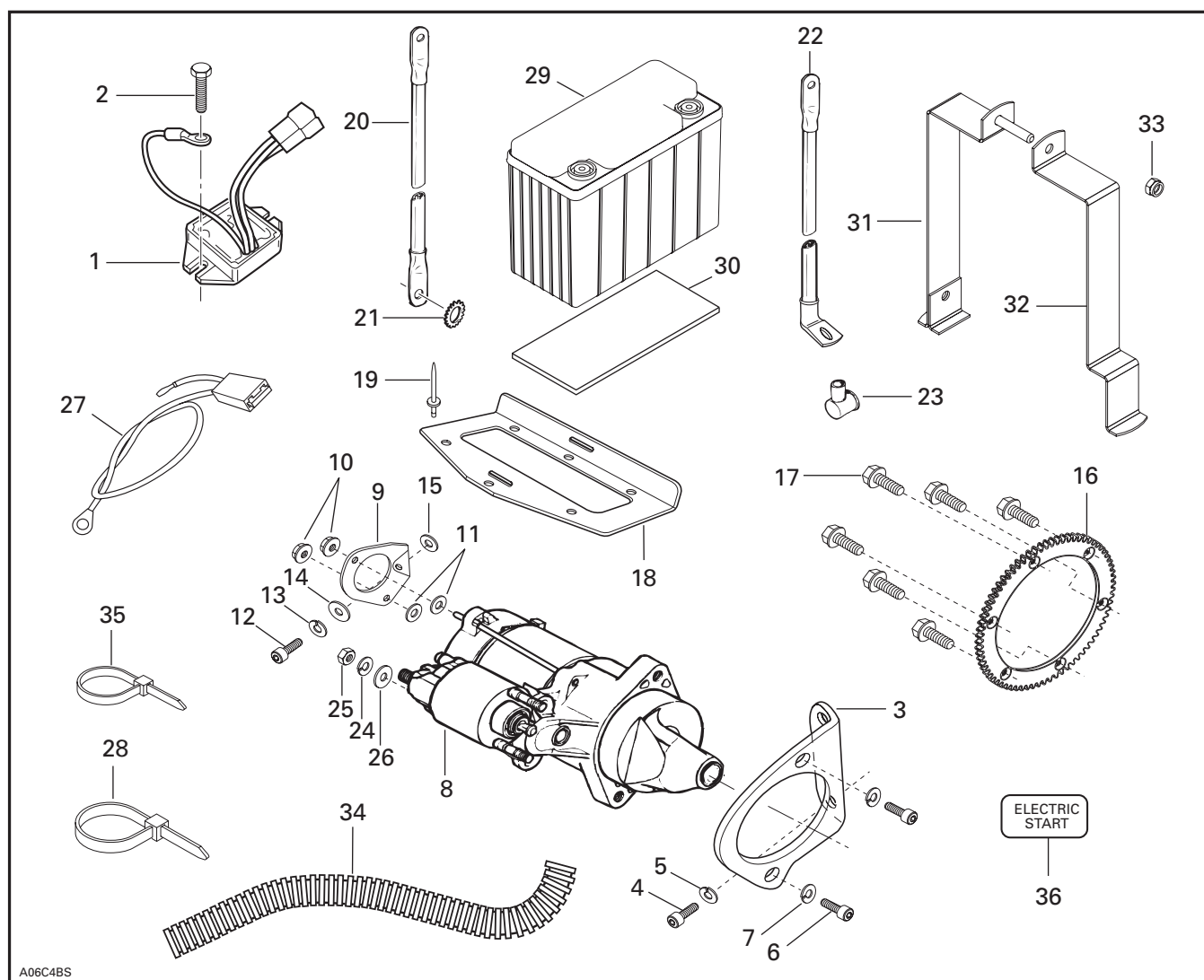
⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. Torque wrench tightening specifications must strictly be adhered to; refer to table at the end of this document. This instruction sheet should be given to the purchaser.

This kit is designed for specific applicable models only (your authorized Ski-Doo snowmobile dealer will confirm models). It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 2.5 hours.

PARTS TO BE INSTALLED



1. Voltage Regulator
2. Self-Tapping Screw M6 x 16 (2)
3. Starter Support PTO side
4. Socket Screw M8 x 20 (2)
5. Lock Washer M8 (2)
6. Socket Screw M8 x 25 (2)
7. Lock Washer M8 (2)
8. Starter
9. Starter Support MAG side
10. Flanged Elastic Nut M5 (2)
11. Flat Washer M5 (2)
12. Socket Screw M8 x 20
13. Lock Washer M8
14. Flat Washer M8
15. Hardened Washer (2)
16. Ring Gear
17. Self-Tapping Screw M8 x 16 (6)
18. Battery Seat

19. Rivet (6)
20. Battery Ground Cable (BLACK)
21. Lock Washer (star)
22. Battery Positive Cable (RED)
23. Protector Cap (2)
24. Lock Washer
25. Hexagonal Nut M8
26. Flat Washer
27. Fuse Holder
28. Locking Tie (8)
29. Battery
30. Rubber Strip
31. Welded Steel Strip
32. Steel Strip
33. Flanged Elastic Nut M5
34. Protector
35. Locking Tie
36. Decal

VEHICLE PREPARATION

Battery

NOTE: Refer to appropriate *Ski-Doo Shop Manual* for proper battery removal/installation procedure.

Battery must be charged prior to installing this electric starter kit.

WARNING

Never charge or boost battery while connected or installed in vehicle.

Vehicle

Close fuel shut off valve, if equipped.

Remove exhaust system, belt guard and drive belt.

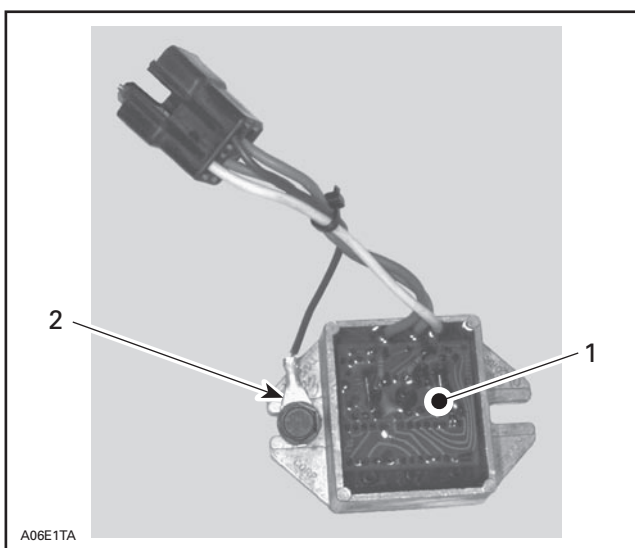
Remove air intake silencer.

INSTALLATION

Voltage Regulator

Remove original regulator/rectifier, located along RH side member of frame, under rewind starter. Secure voltage regulator **no. 1** on both sides using self-tapping screws **no. 2** as well as connecting ground wire from voltage regulator as shown.

NOTE: Remove rewind starter to ease voltage regulator installation.



1. Voltage regulator
2. Connect ground wire here

Apply silicone dielectric grease (P/N 293 550 004) in voltage regulator 4-conductor housing as well as vehicle harness 4-conductor housing and plug them together.

Ring Gear

Remove drive pulley. Refer to *Shop Manual* to perform drive pulley disassembly/assembly procedures and to proceed with pulley alignment.

Secure ring gear **no. 16** on inner half using 6 self-tapping screws **no. 17**. Apply Loctite 271 (red) on screw threads.

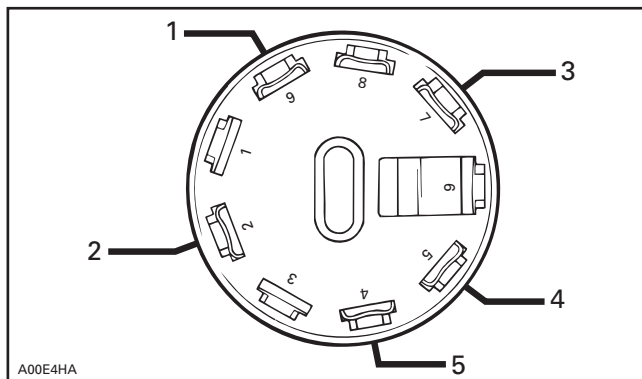
CAUTION: Loctite 271 (red) must be applied to properly assemble the ring gear.

Torque screws to 28 N•m (21 lbf•ft) in a criss-cross sequence.

Do not reinstall drive pulley at this time.

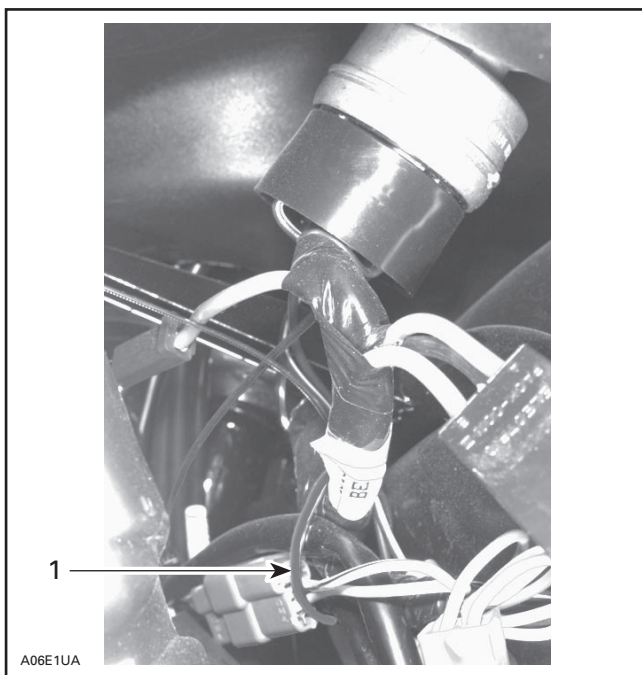
Ignition Switch

Cut locking tie and unplug switch connector housing from ignition switch. Insert shortest wire of fuse holder **no. 27** inside switch connector housing. Insert connector in position number 7 on switch-connector housing. Reposition connector respecting vehicle connector code as illustrated.



1. RED/GREEN wire to solenoid
2. BLACK/YELLOW
3. RED wire with fuse to battery
4. BLACK
5. RED/BLUE

Replug switch connector housing to ignition switch and secure wires with a locking tie **no. 28** as shown.



1. Locking tie

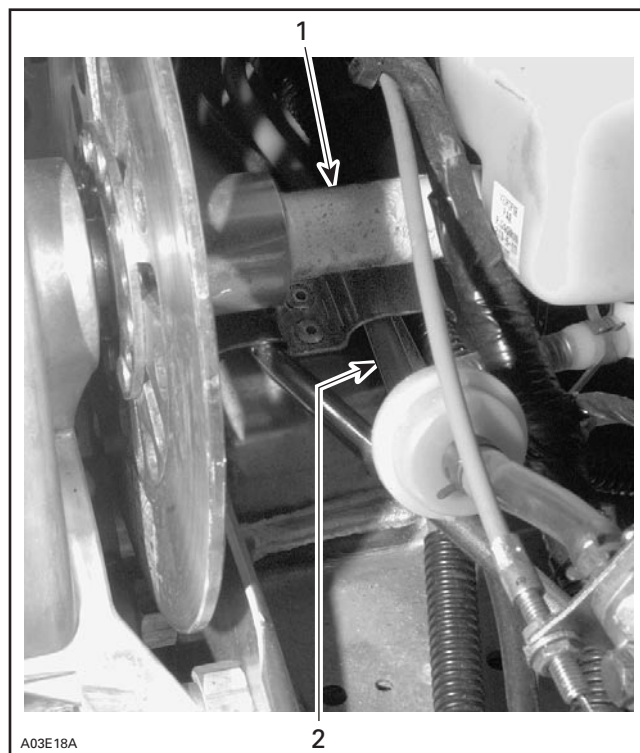
Wire/Cable Connections and Routing

Ensure that one connector of RED battery positive cable **no. 22** is straight and other connector bent to 60°. Bend or straighten as necessary.

Starting from battery location, route battery cable along vehicle harness to starter location.

The straight connector will be connected to battery.

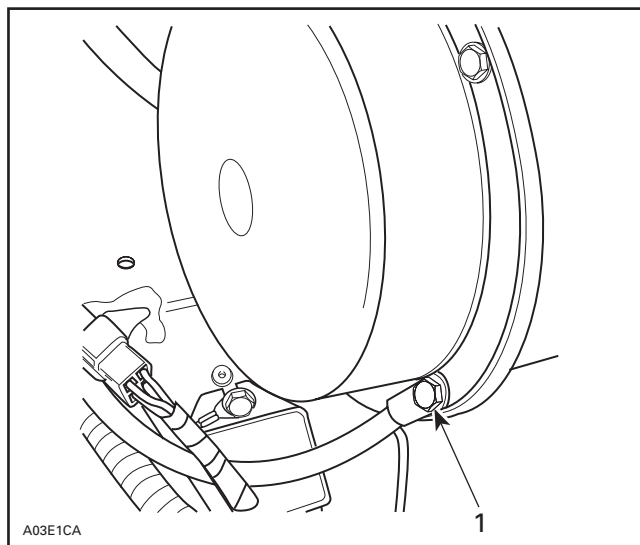
NOTE: Route battery cables through free bracket underneath countershaft as illustrated.



1. Countershaft
2. Battery cables underneath bracket

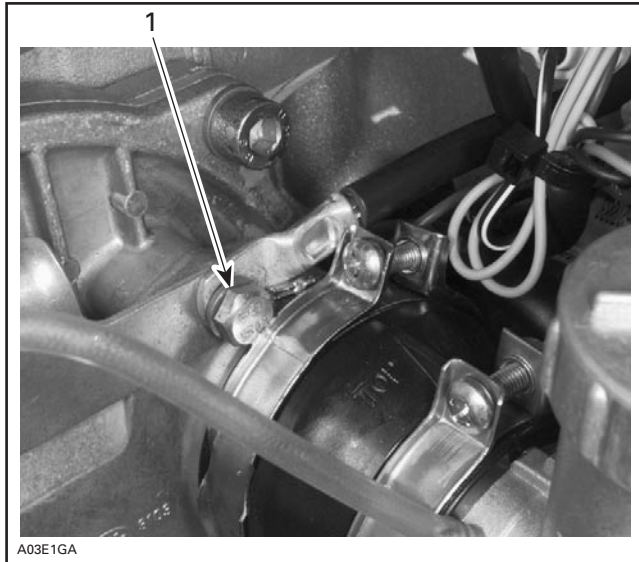
Install BLACK battery ground cable **no. 20** with star lock washer **no. 21** to rewind starter. Secure with original rewind starter screw. Refer to following illustration for proper cable positioning.

NOTE: Connect BLACK battery ground cable in the specified order. Position star washer first then BLACK ground cable and tighten with original screw.



1. Connect BLACK ground cable here

For models that do not have screws to secure re-wind starter (large rewind), connect the BLACK battery ground cable **no. 20** with star lock washer **no. 21** to the rear of engine block, on rotary valve cover above carburetor. Refer to following photo for proper cable positioning.



1. Connect BLACK ground cable here

Electric Starter

CAUTION: Apply Loctite 271 (red) on all fastener threads of starter supports.

Install starter support **no. 3** (PTO side) to engine using socket screws **no. 4** and lock washers **no. 5**. Tighten firmly.

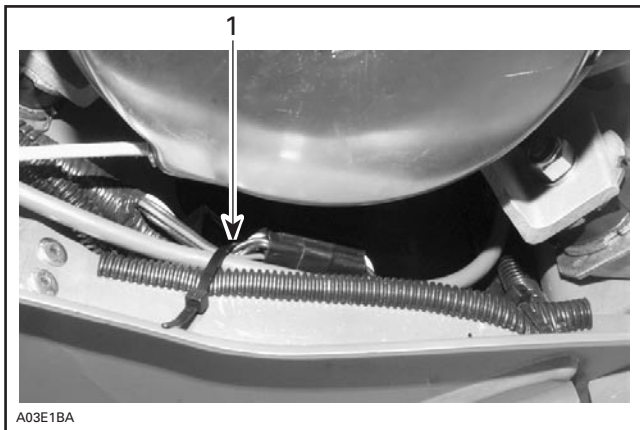
Install electric starter **no. 8** on support. Secure bottom first and then top using socket screws **no. 6** and lock washers **no. 7**.

Install flat washers **no. 11** over nuts of starter through bolts (MAG side).

Install starter support **no. 9** (MAG side) to starter and secure with flanged elastic nuts **no. 10**.

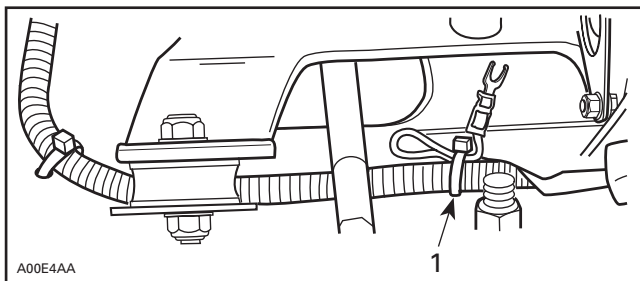
If necessary, install hardened washer(s) **no. 15** to fill gap between support and engine. Secure support to engine with flat washer **no. 14**, lock washer **no. 13** and socket screw **no. 12**.

Install cable protector **no. 34** then slide protector cap **no. 23** onto RED battery positive cable **no. 22**. Bend terminal to fit. Install RED cable on starter with flat washer **no. 26**, lock washer **no. 24** and hexagonal nut **no. 25**. Cover starter terminal with protector cap. Cut locking tie and install new one as shown on next photo.



1. Cut existing locking tie and install new one

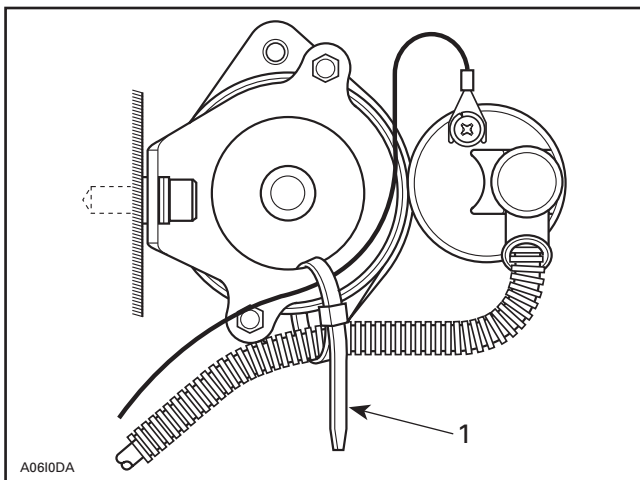
Cut the locking tie that is retaining RED/GREEN wire to wiring harness beneath engine as shown.



1. Cut locking tie

Connect RED/GREEN wire to small post on solenoid. Position connector under lock washer.

Secure cables loosely to rear bracket with a locking tie **no. 28**, as illustrated.



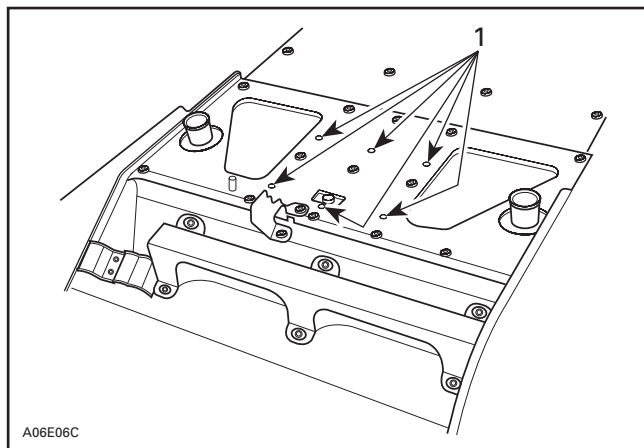
1. Tie loosely

Pull excess amount of cable from underneath engine.

Battery and Rack

CAUTION: Cover carburetor intakes with a clean rag during the following drilling operation.

Drill 6 holes in chassis with a 5.2 mm (13/64 in) drill bit as shown in following illustration. Use existing holes in chassis as a guide.



1. Drill 5.2 mm (13/64 in) holes

Secure battery seat **no. 18** with 6 rivets **no. 19**.

Install rubber strip **no. 30** and battery **no. 29** on seat.

Insert protector cap **no. 23** onto RED positive cable. Connect battery RED positive cable and RED wire with fuse from ignition switch to battery, cover post with protector cap, THEN connect BLACK ground cable. Secure cables on top of battery posts.

WARNING

Always connect the battery cables exactly in the specified order. Connect RED positive cable first, then BLACK negative ground cable.

Install strips **no. 31** and **no. 32** and secure with flanged elastic nut **no. 33**. Route RED battery cable and RED wire through indentation on front battery strip.

Fasten battery cables using a locking tie **no. 35**.

WARNING

Ensure all terminals are properly crimped on wires/cables and that all connector housings are properly fastened. Keep wires away from any rotating, moving, heating or vibrating parts as well as from sharp edges. Use proper fastening devices as required.

FINALIZING INSTALLATION

NOTE: Refer to appropriate *Ski-Doo Shop Manual* for proper reinstallation procedure.

Reinstall drive pulley.

Check pulley alignment.

WARNING

Drive pulley alignment must always be checked whenever pulleys have been removed, replaced or disassembled.

Reinstall remaining removed parts.

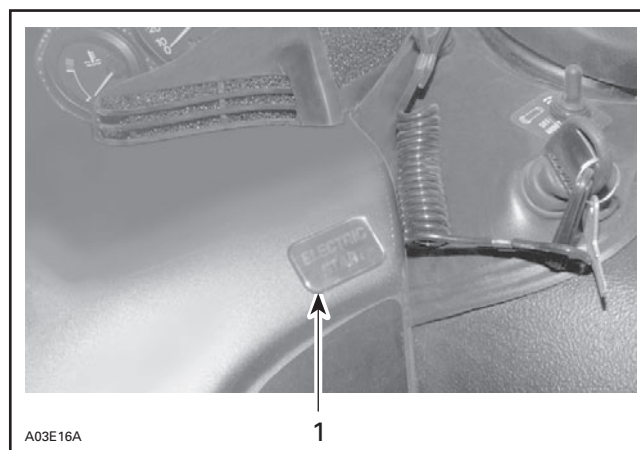
Decal

Clean decal area with soapy water or isopropyl alcohol using a soft clean cloth and dry thoroughly.

CAUTION: Do not apply isopropyl alcohol on decal.

Remove backing from decal.

Apply decal **no. 36** as shown.



1. Decal

The following table is to be consulted if and when a tightening torque is required but not specified.

Bold face size indicates nominal value (mean value).

N•m	FASTENER SIZE (8.8 grade)	Lbf•in
2	M4	18
3	M4	27
4	M5	35
8	M6	71
9	M6	80
10	M6	89
11	M6	97
12	M6	106

N•m	FASTENER SIZE (8.8 grade)	Lbf•ft
21	M8	15
22	M8	16
23	M8	17
24	M8	18
25	M8	18
43	M10	32
44	M10	32
45	M10	33
46	M10	34
47	M10	35
48	M10	35
49	M10	36
50	M10	37
51	M10	38
52	M10	38
53	M10	39
76	M12	56
77	M12	57
78	M12	58
79	M12	58
80	M12	59

N•m	FASTENER SIZE (8.8 grade)	Lbf•ft
81	M12	60
82	M12	60
83	M12	61
84	M12	62
121	M14	89
122	M14	90
123	M14	91
124	M14	91
125	M14	92
126	M14	93
127	M14	94
128	M14	94
129	M14	95
130	M14	96
131	M14	97
132	M14	97
133	M14	98
134	M14	99
135	M14	100
136	M14	100
137	M14	101
138	M14	102
139	M14	103
140	M14	103
141	M14	104
142	M14	105
143	M14	105
144	M14	106
145	M14	107
146	M14	108
147	M14	108
148	M14	109
149	M14	110
150	M14	111

861 504 300

1.	515 175 546	Voltage Regulator	Régulateur de tension
2.	210 261 680	Self-Tapping Screw M6 x 16 (2)	Vis autotaraudeuse M6 x 16 (2)
3.	420 853 730	Starter Support PTO side	Support de démarreur (côté PDM)
4.	205 082 044	Socket Screw M8 x 20 (2)	Vis à tête creuse M8 x 20 (2)
5.	420 945 752	Lock Washer M8 (2)	Rondelle-frein M8 (2)
6.	205 082 544	Socket Screw M8 x 25 (2)	Vis à tête creuse M8 x 25 (2)
7.	234 181 401	Lock Washer M8 (2)	Rondelle-frein M8 (2)
8.	410 212 400	Starter	Démarreur
9.	420 953 011	Starter Support MAG side	Support de démarreur (côté MAG)
10.	233 251 414	Flanged Elastic Nut M5 (2)	Écrou d'arrêt élastique à épaulement M5 (2)
11.	391 301 700	Flat Washer M5 (2)	Rondelle plate M5 (2)
12.	205 082 044	Socket Screw M8 x 20	Vis à tête creuse M8 x 20
13.	420 945 752	Lock Washer M8	Rondelle-frein M8
14.	234 081 410	Flat Washer M8	Rondelle plate M8
15.	503 007 900	Hardened Washer (2)	Rondelle trempée (2)
16.	415 043 100	Ring Gear	Couronne de lancement
17.	236 281 684	Self-Tapping Screw M8 x 16 (6)	Vis autotaraudeuse M8 x 16 (6)
18.	517 286 200	Battery Seat	Support de batterie
19.	390 402 200,	Rivet (6)	Rivet (6)
20.	515 175 287	Battery Ground Cable (BLACK)	Câble de masse de la batterie (NOIR)
21.	394 001 900	Lock Washer (star)	Rondelle-frein en étoile
22.	515 175 288	Battery Positive Cable (RED)	Câble positif de la batterie (ROUGE)
23.	570 151 000	Protector Cap (2)	Capuchon de protection (2)
24.	420 945 752	Lock Washer	Rondelle-frein
25.	232 081 414	Hexagonal Nut M8	Écrou hexagonal M8
26.	234 081 410	Flat Washer	Rondelle plate
27.	515 157 300	Fuse Holder	Porte-fusible
28.	414 115 200	Locking Tie (8)	Attache (8)
29.	710 000 283	Battery	Batterie
30.	570 070 300	Rubber Strip	Bande de caoutchouc
31.	515 175 207	Welded Steel Strip	Bande d'acier soudée
32.	515 175 116	Steel Strip	Bande d'acier
33.	233 251 414	Flanged Elastic Nut M5	Écrou élastique à épaulement M5
34.	409 901 800	Protector	Protecteur
35.	293 750 008	Locking Tie	Attache
36.	418 001 300	Decal	Autocollant

**ELECTRIC STARTER KIT
(P/N 861 504 400)**

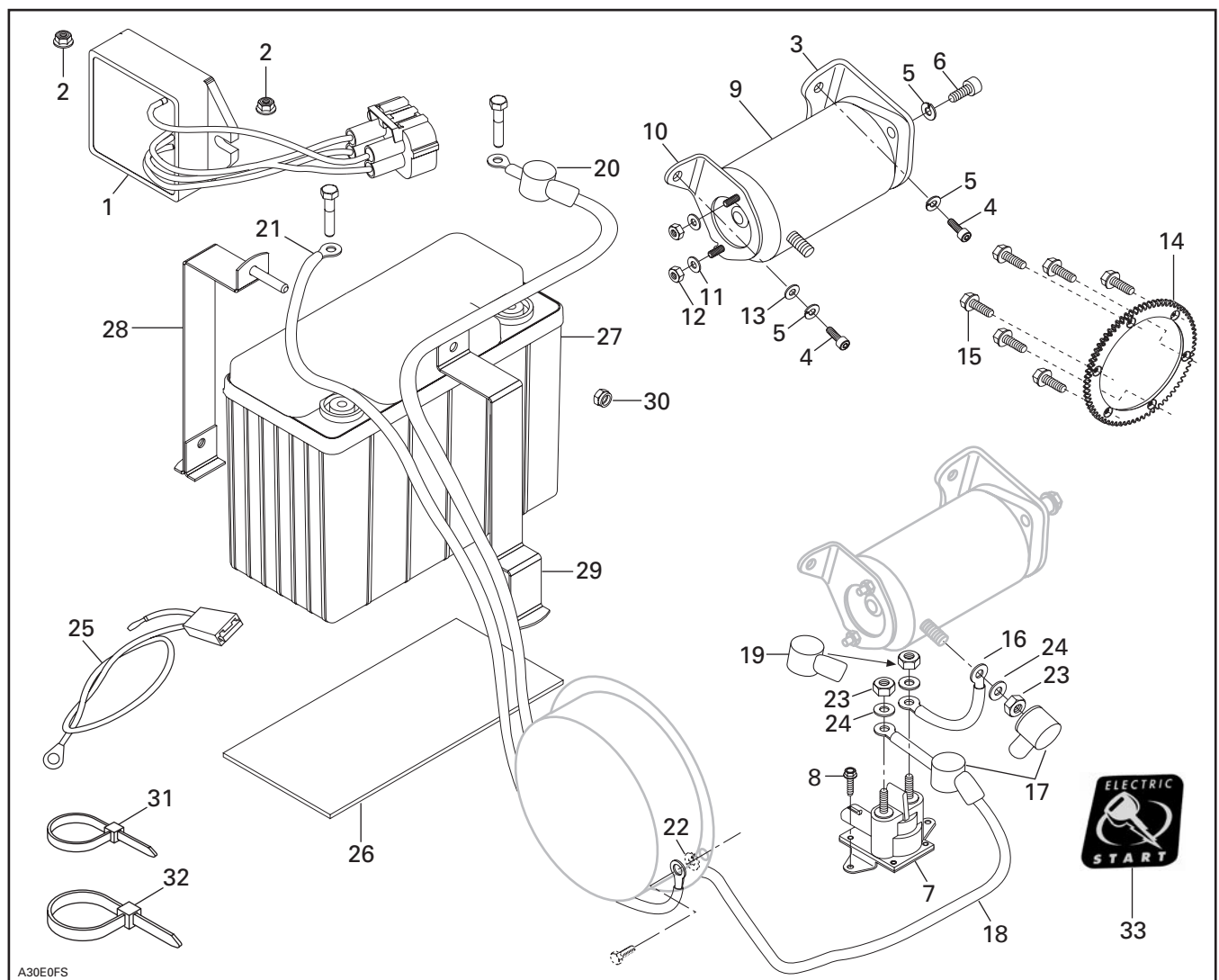
⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. Torque wrench tightening specifications must strictly be adhered to; refer to table at the end of this document. This instruction sheet should be given to the purchaser.

This kit is designed for specific applicable models only (your authorized Ski-Doo snowmobile dealer will confirm models). It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 2.5 hours.

PARTS TO BE INSTALLED



1. Voltage Regulator
2. Flanged Elastic Nut M6 (2)
3. Starter Support PTO side
4. Socket Screw M8 x 20 (3)
5. Lock Washer M8 (5)
6. Socket Screw M8 x 25 (2)
7. Starter Relay
8. Self-Tapping Hexagonal Screw (2)
9. Starter
10. Starter Support MAG Side
11. Flat Washer (2)
12. Flanged Elastic Nut M5 (2)
13. Flat Washer M8
14. Ring Gear
15. Self-Tapping Screw M8 x 16 (6)
16. Battery Positive Cable (short)
17. Protector Cap (2)

18. Battery Positive Cable
19. Protector Cap
20. Protector Cap
21. Battery Ground Cable
22. Star Lock Washer (3)
23. Elastic Hexagonal Nut (3)
24. Flat Washer (3)
25. Fuse Holder
26. Rubber Strip
27. Battery
28. Rear Steel Strip
29. Front Steel Strip
30. Flanged Elastic Nut M5
31. Locking Tie (8)
32. Locking Tie
33. Decal

INSTRUCTIONS

Battery Preparation

Prior to electric starter kit installation, battery must be charged. Refer to *Shop Manual* for proper procedure.

WARNING

Never charge or boost battery while connected or installed on vehicle.

Vehicle Preparation

Close fuel shut off valve.

Remove tuned pipes, muffler, belt guard, drive belt, air intake silencer.

Loosen drive pulley retaining screw for later removal.

Voltage Regulator

Remove original regulator/rectifier, located along RH side member of frame. Keep retaining bolts. Install voltage regulator **no. 1** and secure with M6 flanged elastic nuts **no. 2** using same retaining bolts.

NOTE: Install regulator, with corner where wires come out toward engine.

Connect voltage regulator to vehicle harness making sure, if applicable, that single wire, disconnected from original regulator/rectifier, assures continuity. This is done by reconnecting it to other single wire from vehicle harness (RED/YELLOW male with RED/BLUE female).

Starter Relay

Locate relay positioning on metal recess just right of left front engine support. From underneath engine pull out wiring harness enough to cut tie that retains male connector and plug it in female receptacle of relay, leaving both threaded posts of relay toward front. Using already existing holes, secure starter relay **no. 7** with self-tapping hexagonal screws **no. 8**.

Ring Gear

Remove drive pulley. Refer to appropriate *Shop Manual* to perform drive pulley disassembly/assembly procedures and to proceed with pulley alignment.

Secure ring gear **no. 14** on inner half using self-tapping screws M8 x 16 **no. 15**. Apply Loctite 271 (red) on screw threads.

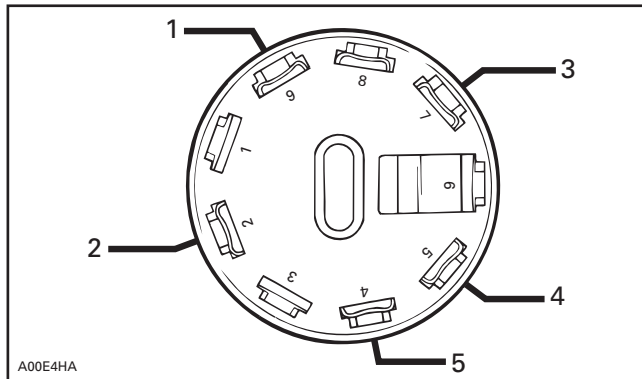
CAUTION: Loctite 271 (red) must be applied to safely assemble ring gear.

Torque screws in a criss-cross sequence to 27 N•m (20 lbf•ft).

Do not reinstall drive pulley at this time.

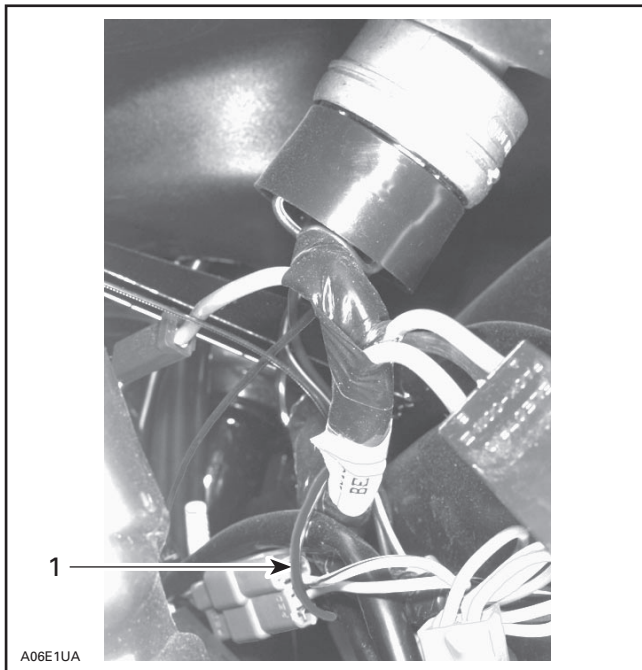
Ignition Switch

Cut locking tie and unplug switch connector housing from ignition switch. Insert shortest wire of fuse holder **no. 25** inside switch connector housing. Insert connector in position number 7 on switch-connector housing. Reposition connector respecting vehicle connector code as illustrated.



1. RED/GREEN wire to relay
2. BLACK/YELLOW
3. RED wire with fuse to battery
4. BLACK
5. RED/BLUE

Replug switch connector housing to ignition switch and secure wires with a locking tie **no. 31** as shown.

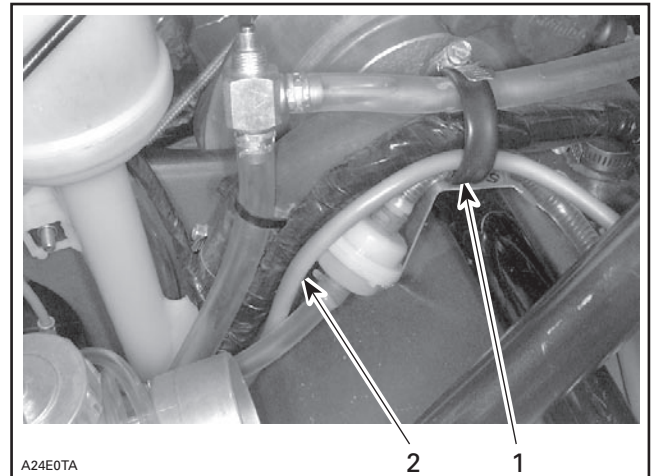


1. Locking tie

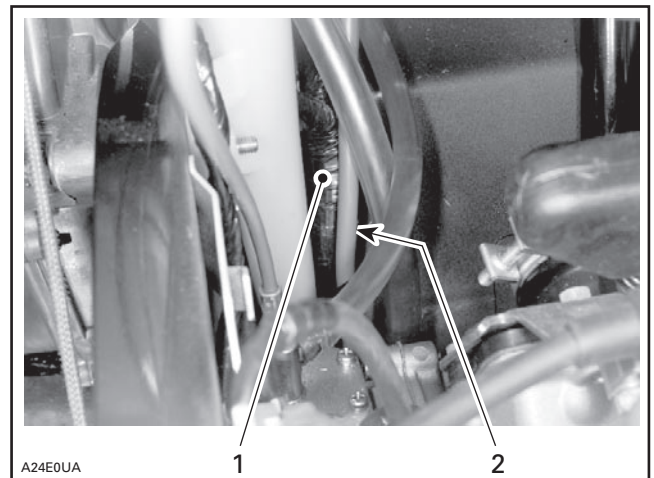
Wire/Cable Connections and Routing

Ensure that all terminals of each battery cable are straight; bend as required.

Starting from battery location, route both cables toward starter location along vehicle harness using existing large clip to start. Refer to following illustrations.



1. Existing large clip
2. Battery positive cable



ALONGSIDE HARNESS

1. Wiring harness
2. Battery positive cable

Make sure cables are pushed secured into corners and that locking ties are used where needed to protect cables from heat or vibration sources and sharp edges.

Install BLACK battery ground cable **no. 21** with star lock washer **no. 22** to rewind starter housing. Secure with existing rewind starter housing screw and lock washer.

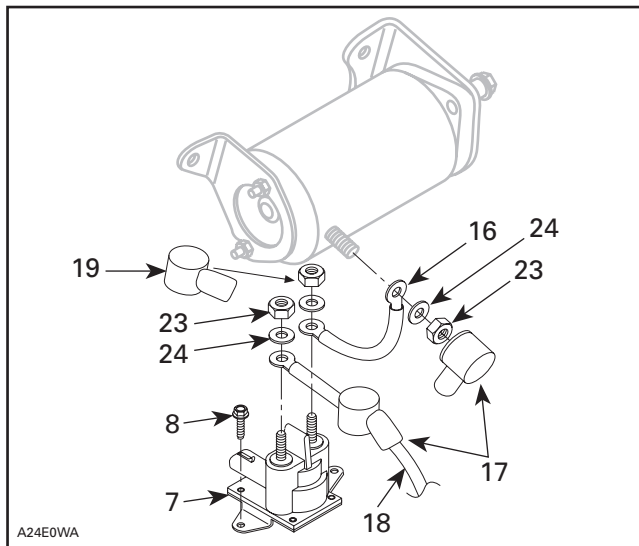
NOTE: Connect BLACK ground cable in specified order: star washer first then BLACK ground cable and original lock washer and tighten with original screw.

Continue RED positive cable routing to starter relay alongside inner frame then left, alongside torsion bar.

Slide protector cap **no. 17** on the RED positive battery cable **no. 18**. Install RED cable, flat washer M8 **no. 24** onto relay inner threaded contact and secure with elastic hexagonal nut **no. 23**. Cover terminal with protector cap previously inserted.

On one end of short battery positive cable **no. 16**, insert protector cap **no. 19** and on starter end of same cable insert protector cap **no. 17**. Slide cable terminal onto relay outer threaded contact then flat washer **no. 24** and again secure with elastic hexagonal nut **no. 23**. Cover contact with protector cap.

Refer to following illustration for relay/starter cable connections.



Using long locking tie **no. 32** secure RED positive cable to torsion bar.

⚠ WARNING

Ensure all terminals are properly crimped on wires/cables and that all connector housings are properly fastened. Keep wires away from any rotating, moving, heating, vibrating parts and sharp edges. Use proper fastening devices as required.

Electric Starter

CAUTION: Apply Loctite 271 (red) on all fastener threads of starter supports.

Through opening on PTO side, start by depositing starter on floor pan.

Install starter support PTO side **no. 3** onto engine using socket screws M8 x 20 **no. 4** and lock washers **no. 5**. Tighten firmly.

Lift up and install electric starter **no. 9** on support, bottom bolts first and secure it using M8 x 25 socket screws **no. 6** and lock washers M8 **no. 5**.

Install flat washers M6 **no. 11** over nuts of starter through bolts.

Install starter support MAG side **no. 10** onto starter and secure with M5 flanged elastic nuts **no. 12**.

Secure support to engine with M8 x 20 socket screw **no. 4**, flat washer **no. 13** and lock washer **no. 5**.

Connect other end of short positive cable from relay onto starter contact, insert flat washer **no. 24** and secure at specified torque with M8 elastic hexagonal nut **no. 23**. Cover contact with previously inserted protector cap.

Battery

On battery seat, remove and discard clips retaining oil line and small wiring harness.

Install rear battery steel strip **no. 28** in hole provided and let small wiring harness run behind it.

Install rubber strip **no. 26** and battery **no. 27** in their location.

Install front battery steel strip **no. 29**, making sure oil line and RED positive cable pass through indentation at its bottom.

Secure both steel strips with flanged elastic nut **no. 30**.

Insert protector cap **no. 20** on RED positive battery cable and connect same cable with red fuse holder wire (from ignition switch) to battery and cover post with protector cap. Connect BLACK ground cable.

⚠ WARNING

Always connect battery cables exactly in the specified order. Connect RED positive cable first, then BLACK negative ground cable.

Finalizing Assembly

Refer to the appropriate *Ski-Doo Shop Manual* for proper reinstallation procedure.

Reinstall drive pulley.

Check pulley alignment.

⚠ WARNING

Drive pulley alignment must always be checked whenever pulleys have been removed, replaced or disassembled.

Reinstall remaining removed parts.

NOTE: Apply Dow Corning sealer no. 736 RTV on exhaust manifold ball joint.

Test electrical starting and ignition cut-out systems as per normal starting procedure for electric starter models.

Decal

Clean decal area with soapy water or isopropyl alcohol using a soft clean cloth and dry thoroughly.

CAUTION: Do not apply isopropyl alcohol on decal.

Remove backing from decal.

Apply decal **no. 33** below ignition switch on the left side of dash.

The following table is to be consulted if and when a tightening torque is required but not specified.

Bold face size indicates nominal value (mean value).

N•m	FASTENER SIZE (8.8 grade)	Lbf•in
2	M4	18
3	M4	27
4	M5	35
8	M6	71
9	M6	80
10	M6	89
11	M6	97
12	M6	106

N•m	FASTENER SIZE (8.8 grade)	Lbf•ft
21	M8	15
22	M8	16
23	M8	17
24	M8	18
25	M8	18
43	M10	32
44	M10	32
45	M10	33
46	M10	34
47	M10	35
48	M10	35
49	M10	36
50	M10	37
51	M10	38
52	M10	38
53	M10	39
76	M12	56
77	M12	57
78	M12	58
79	M12	58

N•m	FASTENER SIZE (8.8 grade)	Lbf•ft
80	M12	59
81	M12	60
82	M12	60
83	M12	61
84	M12	62
121	M14	89
122	M14	90
123	M14	91
124	M14	91
125	M14	92
126	M14	93
127	M14	94
128	M14	94
129	M14	95
130	M14	96
131	M14	97
132	M14	97
133	M14	98
134	M14	99
135	M14	100
136	M14	100
137	M14	101
138	M14	102
139	M14	103
140	M14	103
141	M14	104
142	M14	105
143	M14	105
144	M14	106
145	M14	107
146	M14	108
147	M14	108
148	M14	109
149	M14	110
150	M14	111

861 504 400

1.	515 175 217	Voltage Regulator	Régulateur de tension
2.	233 261 414	Flanged Elastic Nut M6 (2)	Écrou élastique à épaulement M6 (2)
3.	512 059 209	Starter Support PTO Side	Support de démarreur côté PDM
4.	205 082 044	Socket Screw M8 x 20 (3)	Vis à tête creuse M8 x 20 (3)
5.	234 181 401	Lock Washer M8 (5)	Rondelle-frein M8 (5)
6.	205 082 544	Socket Screw M8 x 25 (2)	Vis à tête creuse M8 x 25 (2)
7.	278 001 766	Starter Relay	Relais de démarreur
8.	210 251 180	Self-Tapping Hexagonal Screw (2)	Vis autotaraudeuse à tête hexagonale (2)
9.	515 175 305	Starter	Démarreur
10.	512 059 208	Starter Support MAG Side	Support de démarreur côté MAG
11.	391 301 700	Flat Washer (2)	Rondelle plate (2)
12.	233 251 414	Flanged Elastic Nut M5 (2)	Écrou élastique à épaulement M5 (2)
13.	234 081 410	Flat Washer M8	Rondelle plate M8
14.	417 222 118	Ring Gear	Couronne de lancement
15.	236 281 684	Self-Tapping Screw M8 x 16 (6)	Vis autotaraudeuse M8 x 16 (6)
16.	515 175 101	Battery Positive Cable (short)	Câble positif de la batterie (court)
17.	570 064 200	Protector Cap (2)	Capuchon de protection (2)
18.	515 175 153	Battery Positive Cable	Câble positif de la batterie
19.	278 000 020	Protector Cap	Capuchon de protection
20.	570 151 000	Protector Cap	Capuchon de protection
21.	515 175 151	Battery Ground Cable	Câble de masse de la batterie
22.	394 001 900	Star Lock Washer (3)	Rondelle-frein en étoile (3)
23.	232 561 414	Elastic Hexagonal Nut (3)	Écrou élastique hexagonal (3)
24.	234 061 410	Flat Washer (3)	Rondelle plate (3)
25.	515 157 300	Fuse Holder	Porte-fusible
26.	570 070 300	Rubber Strip	Bande de caoutchouc
27.	710 000 283	Battery	Batterie
28.	515 175 114	Rear Steel Strip	Bande d'acier arrière
29.	515 175 116	Front Steel Strip	Bande d'acier avant
30.	233 251 414	Flanged Elastic Nut M5	Écrou élastique à épaulement M5
31.	414 115 200	Locking Tie (8)	Attache (8)
32.	293 750 008	Locking Tie	Attache
33.	418 001 302	Decal	Autocollant



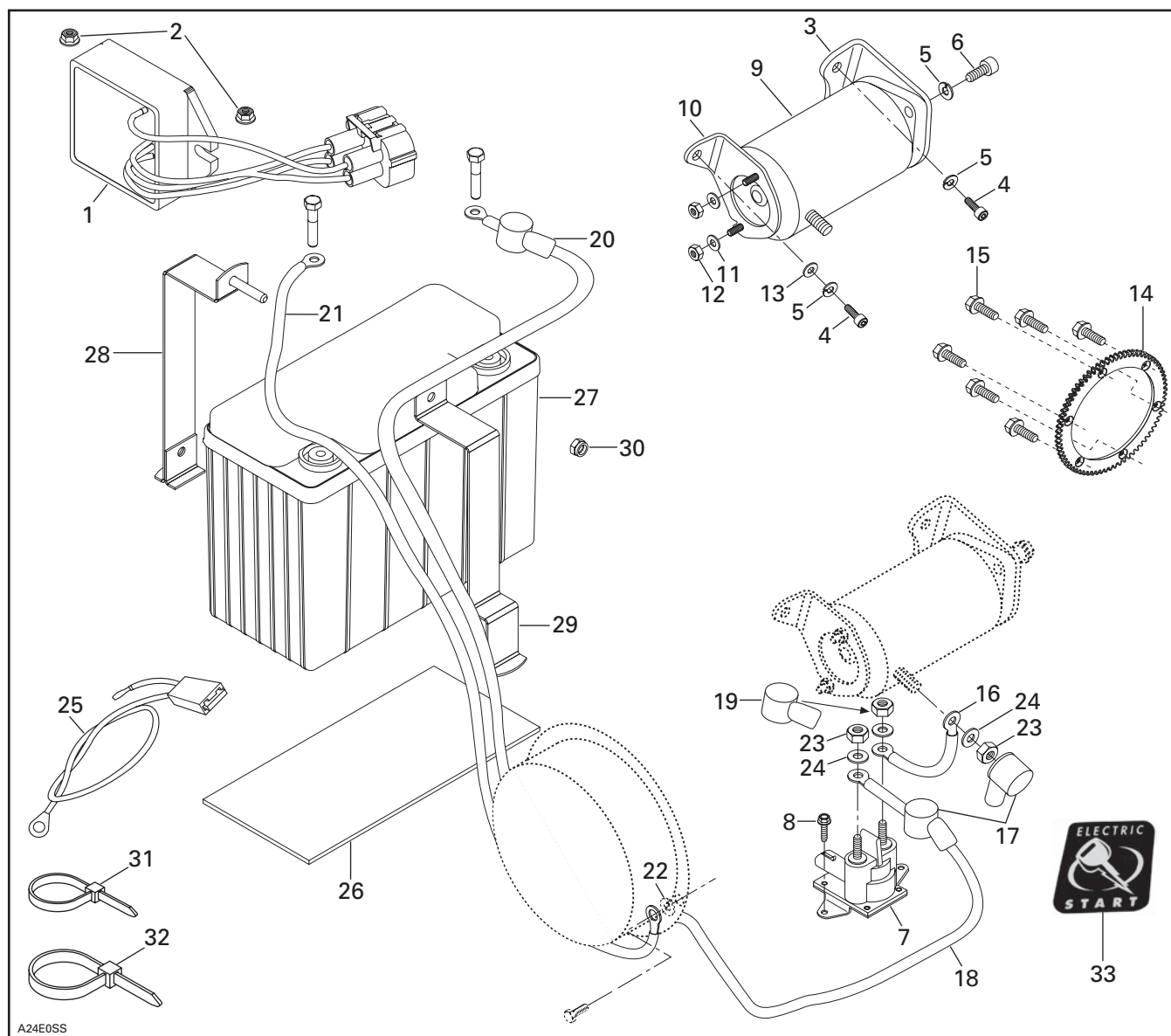
**ELECTRIC STARTER KIT
(P/N 861 504 500)**

⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. This instruction sheet should be given to the purchaser. This kit is designed for specific applicable models only. It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 2.5 hours.

PARTS TO BE INSTALLED



A24E0SS

1. Voltage Regulator
2. Flanged Elastic Nut M6 (2)
3. Starter Support PTO Side
4. Socket Screw M8 x 20 (3)
5. Lock Washer M8 (5)
6. Socket Screw M8 x 25 (2)
7. Starter Solenoid
8. Self-Tapping Hexagonal Screw (2)
9. Starter
10. Starter Support MAG side
11. Flat Washer (2)
12. Flanged Elastic Nut M5 (2)
13. Flat Washer M8
14. Ring Gear
15. Self-Tapping Screw M8 x 16 (6)
16. Battery Positive Cable (short)
17. Protector Cap (2)

18. Battery Positive Cable
19. Protector Cap
20. Protector Cap
21. Battery Ground Cable
22. Star Lock Washer (3)
23. Elastic Hexagonal Nut (3)
24. Flat Washer (3)
25. Fuse Holder Assembly
26. Rubber Strip
27. Battery
28. Rear Steel Strip
29. Front Steel Strip
30. Flanged Elastic Nut M5
31. Locking Tie (8)
32. Locking Tie
33. Decal

INSTRUCTIONS

Battery Preparation

Prior to electric starter kit installation, battery must be charged. Refer to *Shop Manual* for proper procedure.

WARNING

Never charge or boost battery while connected or installed on vehicle.

Vehicle Preparation

Close fuel shut off valve.

Remove tuned pipes, muffler, belt guard, drive belt, air intake silencer.

Loosen drive pulley retaining screw for later removal.

Voltage Regulator

Remove original regulator/rectifier, located along RH side member of frame. Keep retaining bolts. Install voltage regulator **no. 1** and secure with M6 flanged elastic nuts **no. 2** using same retaining bolts.

NOTE: Install regulator, with corner where wires come out toward engine.

Connect voltage regulator to vehicle harness.

Starter Solenoid

Locate solenoid positioning on metal recess just right of left front engine support. From underneath engine pull out wiring harness enough to cut tie that retains male connector and plug it in female receptacle of solenoid, leaving both threaded posts of solenoid toward front. Using already existing holes, secure solenoid **no. 7** with self-tapping hexagonal screws **no. 8**.

Ring Gear

Remove drive pulley. Refer to appropriate *Shop Manual* to perform drive pulley disassembly/assembly procedures and to proceed with pulley alignment.

Secure ring gear **no. 14** on inner half using self-tapping screws M8 x 16 **no. 15**. Apply Loctite 271 (red) on screw threads.

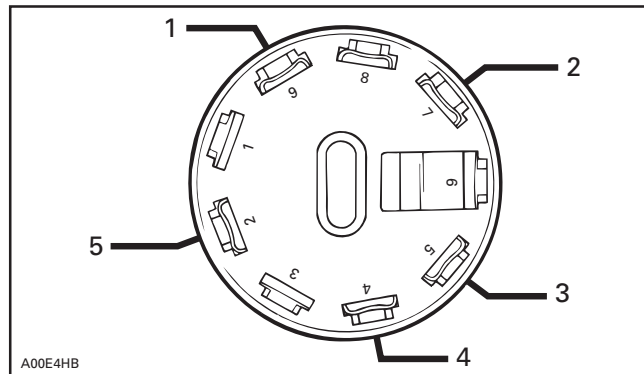
CAUTION: Loctite 271 (red) must be applied to safely assemble ring gear.

Torque screws in a criss-cross sequence to 27 N•m (20 lbf•ft).

Do not reinstall drive pulley at this time.

Ignition Switch

Separate connector from ignition switch and slide shortest wire of fuse holder assembly **no. 25** inside connector boot at position 7.



1. RED/GREEN wire to solenoid
2. RED wire with fuse to battery
3. BLACK
4. RED/BLUE
5. BLACK/YELLOW

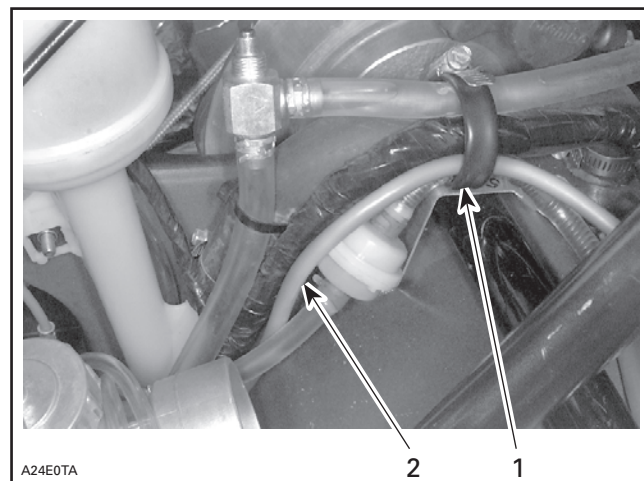
Replug connector to switch and secure RED fuse holder assembly to upper column, using one of the **no. 31** locking ties supplied.

NOTE: Make sure not to squeeze nearby fuel tank vent tube when securing RED fuse holder assembly to upper column.

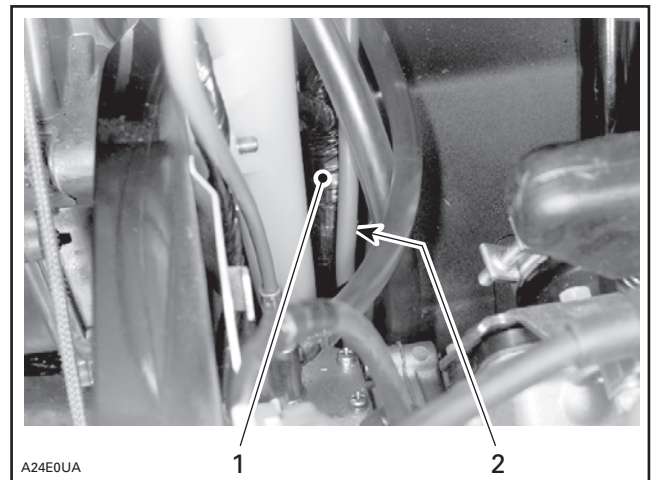
Wire/Cable Connections and Routing

Ensure that all terminals of each battery cable are straight; bend as required.

Starting from battery location, route both cables toward starter location along vehicle harness using existing large clip to start. Refer to following illustrations.



1. Existing large clip
2. Battery positive cable



ALONGSIDE HARNESS

1. Wiring harness
2. Battery positive cable

Make sure cables are pushed secured into corners and that locking ties are used where needed to protect cables from heat or vibration sources and sharp edges.

Install BLACK battery ground cable **no. 21** with star washer **no. 22** to rewind starter housing. Secure with existing rewind starter housing screw and lock washer.

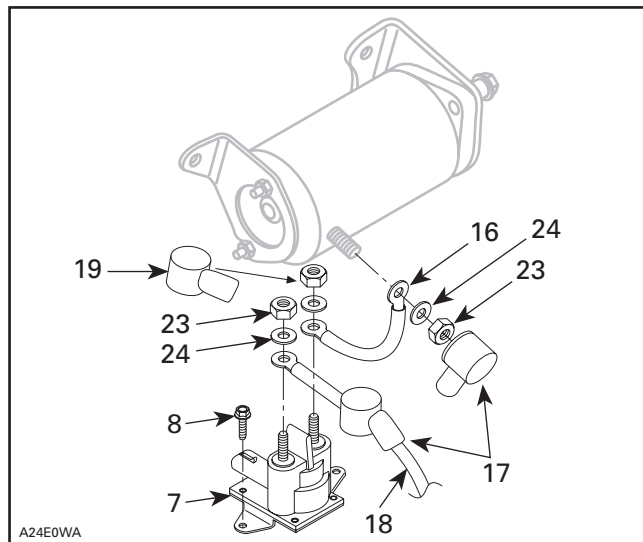
NOTE: Connect BLACK ground cable in specified order: star washer first then BLACK ground cable and original lock washer and tighten with original screw.

Continue RED positive cable routing to starter solenoid alongside inner frame then left, alongside torsion bar.

Slide protector cap **no. 17** on the RED positive battery cable **no. 18**. Install RED cable, flat washer M8 **no. 24** onto solenoid inner threaded contact and secure with M8 nut **no. 23**. Tighten nut to 13 N•m (10 lbf•ft). Cover terminal with protector cap previously inserted.

On one end of short positive cable **no. 16**, insert protector cap **no. 19** and on starter end of same cable insert protector cap **no. 17**. Slide cable terminal onto solenoid outer threaded contact then flat washer M8 **no. 24** and again secure with M8 nut **no. 23** at same torque specifications. Cover contact with protector cap.

Refer to following illustration for solenoid/starter cable connections.



Using long locking tie **no. 32** secure RED positive cable to torsion bar.

⚠ WARNING

Ensure all terminals are properly crimped on wires/cables and that all connector housings are properly fastened. Keep wires away from any rotating, moving, heating, vibrating parts and sharp edges. Use proper fastening devices as required.

Electric Starter

CAUTION: Apply Loctite 271 (red) on all fastener threads of starter supports.

Through opening on PTO side, start by depositing starter on floor pan.

Install starter support PTO side **no. 3** onto engine using socket screws M8 x 20 **no. 4** and lock washers **no. 5**. Tighten firmly.

Lift up and install electric starter **no. 9** on support, bottom bolts first and secure it using M8 x 25 socket screws **no. 6** and lock washers M8 **no. 5**.

Install flat washers M6 **no. 11** over nuts of starter through bolts.

Install starter support MAG side **no. 10** onto starter and secure with M5 flanged elastic nuts **no. 12**.

Secure support to engine with M8 x 20 socket screw **no. 4**, flat washer **no. 13** and lock washer **no. 5**.

Connect other end of short positive cable from solenoid onto starter contact, insert flat washer **no. 24** and secure at specified torque with M8 nut **no. 23**. Cover contact with previously inserted protector cap.

Battery

On battery seat, remove and discard clips retaining oil line and small wiring harness.

Install rear battery steel strip **no. 28** in hole provided and let small wiring harness run behind it.

Install rubber strip **no. 26** and battery **no. 27** in their location.

Install front battery steel strip **no. 29**, making sure oil line and RED positive cable pass through indentation at its bottom.

Secure both steel strips with flanged elastic nut **no. 30**.

Insert protector cap **no. 20** on RED positive battery cable and connect same cable with RED fuse holder wire (from ignition switch) to battery and cover post with protector cap. Connect BLACK ground cable.

⚠ WARNING

Always connect battery cables exactly in the specified order. Connect RED positive cable first, then BLACK negative ground cable.

Finalizing Assembly

Refer to the appropriate *Ski-Doo Shop Manual* for proper reinstallation procedure.

Reinstall drive pulley.

Check pulley alignment.

⚠ WARNING

Drive pulley alignment must always be checked whenever pulleys have been removed, replaced or disassembled.

Reinstall remaining removed parts.

NOTE: Apply Dow Corning sealer no. 736 RTV on exhaust manifold ball joint.

Test electrical starting and ignition cut-out systems as per normal starting procedure for electric starter models.

Decal

Clean decal area with soapy water or isopropyl alcohol using a soft clean cloth and dry thoroughly.

CAUTION: Do not apply isopropyl alcohol on decal.

Remove backing from decal.

Apply decal **no. 33** below ignition switch on the left side of dash.

861 504 500

1.	515 175 217	Voltage Regulator	Régulateur de tension
2.	233 261 414	Flanged Elastic Nut M6 (2)	Écrou élastique à épaulement M6 (2)
3.	512 059 081	Starter Support PTO Side	Support de démarreur côté PDM
4.	205 082 044	Socket Screw M8 x 20 (3)	Vis à tête creuse M8 x 20 (3)
5.	234 181 140	Lock Washer M8 (5)	Rondelle-frein M8 (5)
6.	205 082 544	Socket Screw M8 x 25 (2)	Vis à tête creuse M8 x 25 (2)
7.	278 001 376	Starter Solenoid	Solénoïde de démarreur
8.	210 251 180	Self-Tapping Hexagonal Screw (2)	Vis autotaraudeuse à tête hexagonale (2)
9.	515 175 305	Starter	Démarreur
10.	512 056 600	Starter Support MAG Side	Support de démarreur côté MAG
11.	391 301 700	Flat Washer (2)	Rondelle plate (2)
12.	233 251 414	Flanged Elastic Nut M5 (2)	Écrou élastique à épaulement M5 (2)
13.	234 081 410	Flat Washer M8	Rondelle plate M8
14.	417 009 400	Ring Gear	Couronne de lancement
15.	236 281 684	Self-Tapping Screw M8 x 16 (6)	Vis autotaraudeuse M8 x 16 (6)
16.	515 175 101	Battery Positive Cable (short)	Câble positif de la batterie (court)
17.	570 064 200	Protector Cap (2)	Capuchon de protection (2)
18.	515 175 153	Battery Positive Cable	Câble positif de la batterie
19.	278 000 020	Protector Cap	Capuchon de protection
20.	570 151 000	Protector Cap	Capuchon de protection
21.	515 175 151	Battery Ground Cable	Câble de masse de la batterie
22.	394 001 900	Star Lock Washer (3)	Rondelle-frein en étoile (3)
23.	232 561 414	Elastic Hexagonal Nut (3)	Écrou élastique hexagonal (3)
24.	234 061 410	Flat Washer (3)	Rondelle plate (3)
25.	515 157 300	Fuse Holder Assembly	Porte-fusible (complet)
26.	570 070 300	Rubber Strip	Bande de caoutchouc
27.	515 175 481	Battery	Batterie
28.	515 175 114	Rear Steel Strip	Bande d'acier arrière
29.	515 175 116	Front Steel Strip	Bande d'acier avant
30.	233 251 414	Flanged Elastic Nut M5	Écrou élastique à épaulement M5
31.	414 115 200	Locking Tie (8)	Attache (8)
32.	293 750 008	Locking Tie	Attache
33.	418 001 302	Decal	Autocollant

**ELECTRIC STARTER KIT
(P/N 861 504 600)**

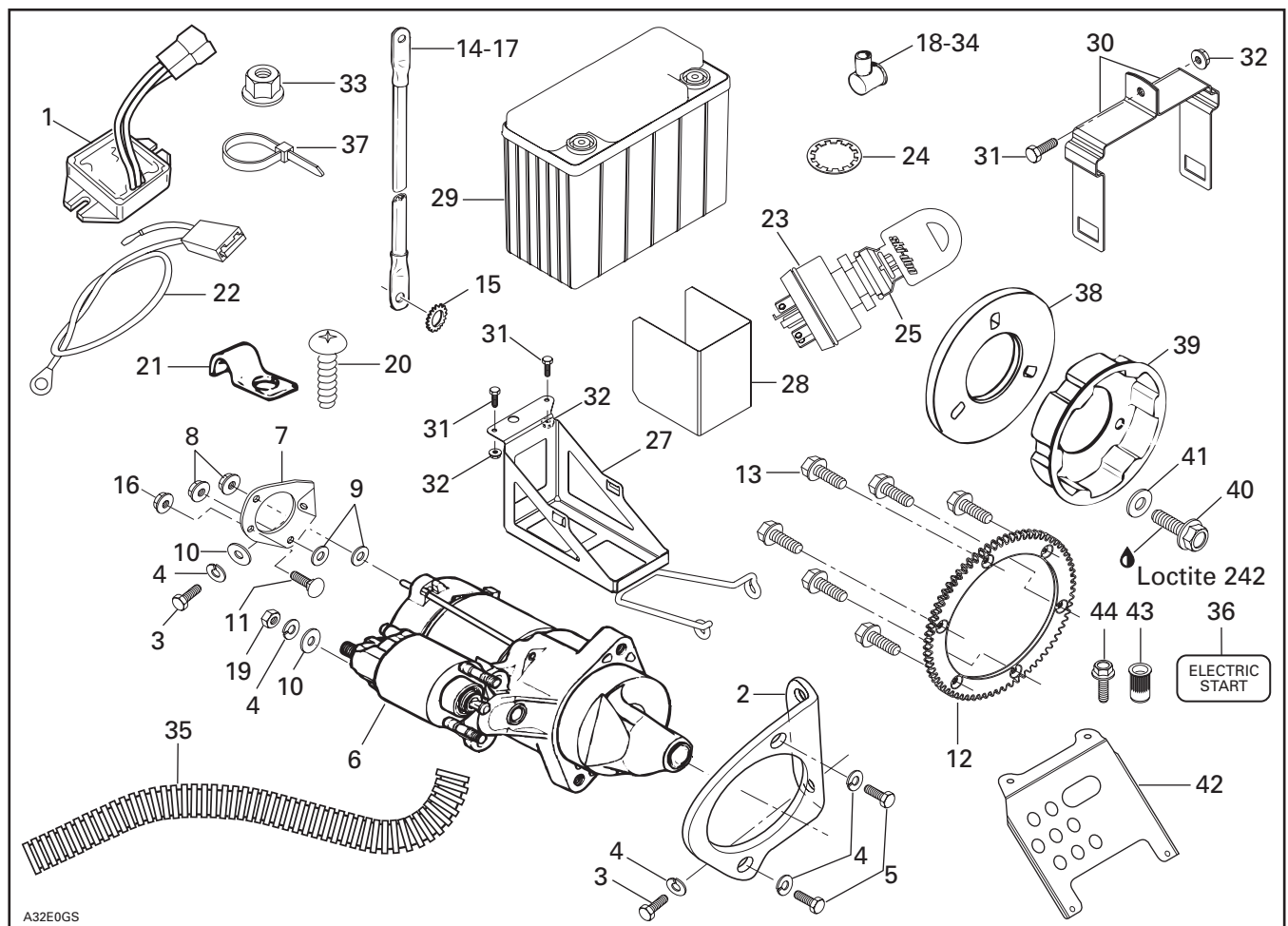
⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. Torque wrench tightening specifications must strictly be adhered to; refer to table at the end of this document. This instruction sheet should be given to the purchaser.

This kit is designed for specific applicable models only (your authorized Ski-Doo snowmobile dealer will confirm models). It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 2.5 hours.

PARTS TO BE INSTALLED



1. Regulator/Rectifier
2. Starter Support PTO Side
3. Hexagonal Screw M8 x 20 (3)
4. Lock Washer M8 (6)
5. Hexagonal Screw M8 x 25 (2)
6. Starter
7. Starter Support MAG Side
8. Flanged Elastic Nut M5 (2)
9. Flat Washer M6 (2)
10. Flat Washer M8 (2)
11. Carriage Bolt M6 x 20
12. Ring Gear
13. Self-Tapping Screw M8 x 16 (6)
14. BLACK Negative Ground Cable
15. Star Washer M6
16. Flanged Elastic Nut M6
17. RED Positive Battery Cable
18. Protector Cap (at starter)
19. Hexagonal Nut M8
20. Self-Tapping Screw M6 x 12
21. Clip
22. Fusible Wiring Harness
23. Switch
24. Star Lock Washer
25. Face Nut
26. Switch Protector (not illustrated)
27. Battery Seat
28. Deflector
29. Battery
30. Steel Strip (2)
31. Hexagonal Screw M5 x 16 (3)
32. Elastic Stop Nut M5 (3)
33. Elastic Stop Nut M10 (2)
34. Protector Cap (at battery)
35. Tubing
36. Decal
37. Locking Tie (8)
38. Counterweight
39. Starting Pulley
40. Hexagonal Screw M8 x 20 (3)
41. Lock Washer M8 (3)
42. Protector
43. Insert (2)
44. Hexagonal Flanged Screw M6 x 16 (2)
45. Black Rubber Plug (2) (not illustrated)

INSTRUCTIONS

Vehicle Preparation

Remove tuned pipe, muffler, belt guard, drive belt, air intake silencer.

Loosen drive pulley retaining screw for later removal.

Regulator/Rectifier

Remove original regulator/rectifier, located along RH side member of frame. Secure regulator/rectifier **no. 1** on both sides with same self-tapping bolts.

Apply silicone dielectric grease (P/N 293 550 004) in regulator/rectifier connector and then connect it to vehicle harness connector. Secure connectors with a locking tie **no. 37**.

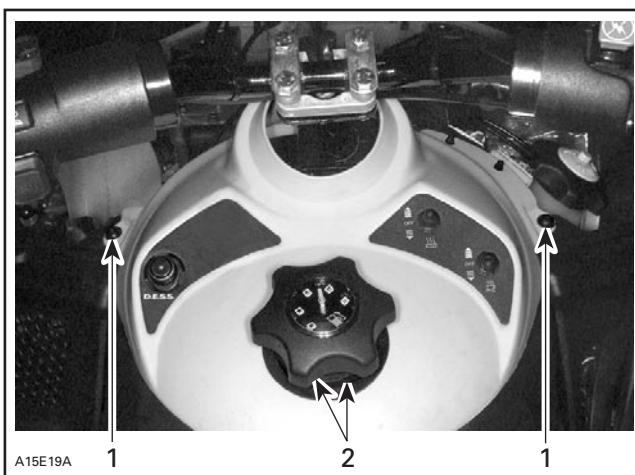
Ignition Switch

Remove steering pad.

Remove upper screw retaining both left and right consoles.

Remove fuel tank cap and retaining ring.

Using template, found on the last page of the current document, properly positioned on dash, mark center hole for switch location, beside DESS connector.

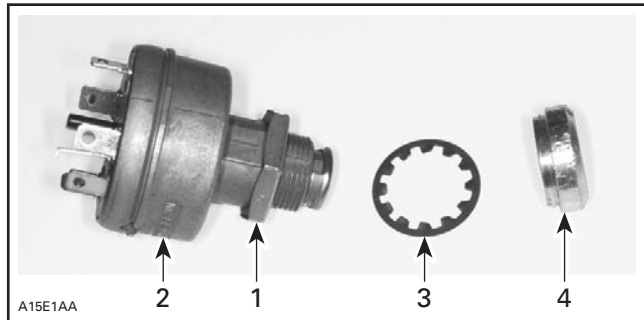


WITH STEERING PAD REMOVED

1. Remove these screws
2. Remove cap and retaining ring

Using a 19 mm (3/4 in) hole saw, drill through dash.

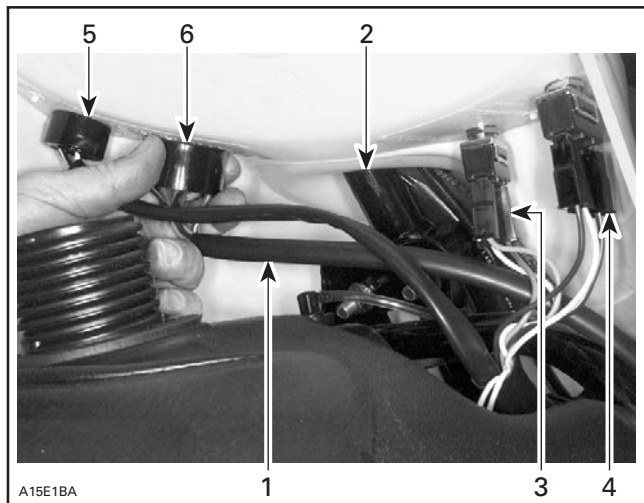
Tighten nut onto ignition switch **no. 23**, slide star lock washer **no. 24** onto switch then insert switch through hole from underneath and secure on top with face nut **no. 25**.



1. Nut
2. Ignition switch
3. Star lock washer
4. Face nut

Install rubber protector **no. 26** on top of switch.

Connect fusible wiring harness **no. 22** to ignition switch then, lift dash and route wiring harness behind steering column but in front of heated thumb/handle connectors, leading toward battery area.

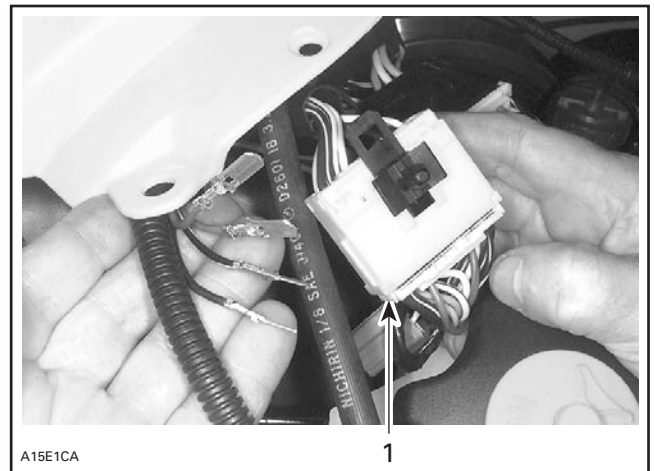


1. Fusible wiring harness
2. Steering column
3. Heated handle connector
4. Heated thumb connector
5. DESS connector
6. Ignition switch connector

Open multi-connector and insert terminals in proper holes as follows:

- BLACK wire in hole no. 15
- BLACK/YELLOW wire in hole no. 14
- RED/BLUE wire in hole no. 13
- RED/WHITE wire in hole no. 12
- RED/GREEN wire in hole no. 11.

Close multi-connector.



1. Use this multi-connector

Flywheel and Starting Pulley

Remove rewind starter.

Unscrew starting pulley. Remove it and install counterweight **no. 38** and new starting pulley **no. 39**.

Secure with hexagonal screws **no. 40** and lock washers **no. 41**. apply loctite 243 on threads.

Torque to 21 N•m (15 lbf•ft).

Reinstall rewind starter.

Ring Gear

Remove drive pulley. Refer to appropriate *Shop Manual* to perform drive pulley disassembly/assembly procedures and to proceed with pulley alignment.

Secure ring gear **no. 12** on inner half using self-tapping screws **no. 13**. Apply Loctite 271 (red) on screw threads.

CAUTION: Loctite 271 (red) must be applied to safely assemble ring gear.

Torque screws in a criss-cross sequence to 27 N•m (20 lbf•ft).

Do not reinstall drive pulley at this time.

Protector Installation

Align protector **no. 42** with left most hole on frame front wall and use protector as a template to drill second hole. See photo page 6.

Using a 10 mm (25/64 in) bit, drill second hole.

From outside, slide inserts **no. 43** in holes.

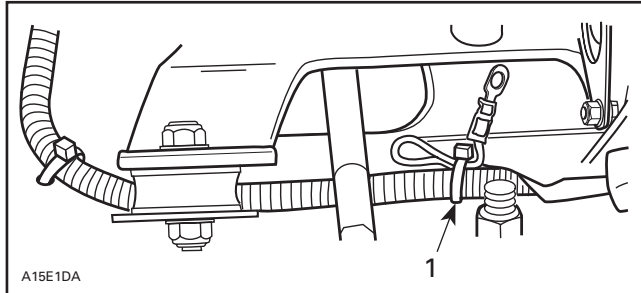
Squeeze it tight on frame by tightening a hexagonal flanged screw **no. 44** on the outside and retaining the insert with a pair of pliers on the inside.

Once insert squeezed, remove hexagonal flanged screw **no. 44**.

Electric Starter

CAUTION: Apply Loctite 271 (red) on all fastener threads of starter supports.

From main harness underneath engine cut locking tie and pull out RED wire with the eyelet terminal toward the starter position.



1. Locking tie

Install starter support PTO side **no. 2** to engine using hexagonal screws **no. 3** and lock washers **no. 4**. Tighten firmly.

Install electric starter **no. 6** on support, bottom bolts first and secure it using M8 x 25 hexagonal screws **no. 5** and lock washers M8 **no. 4**.

Install flat washers M6 **no. 9** over nuts of starter through bolts.

Install starter support MAG side **no. 7** to starter after inserting carriage bolt **no. 11**, and secure with M5 flanged elastic nuts **no. 8**.

Secure support to engine with M8 x 20 hexagonal screw **no. 3**, flat washer **no. 10** and lock washer **no. 4**.

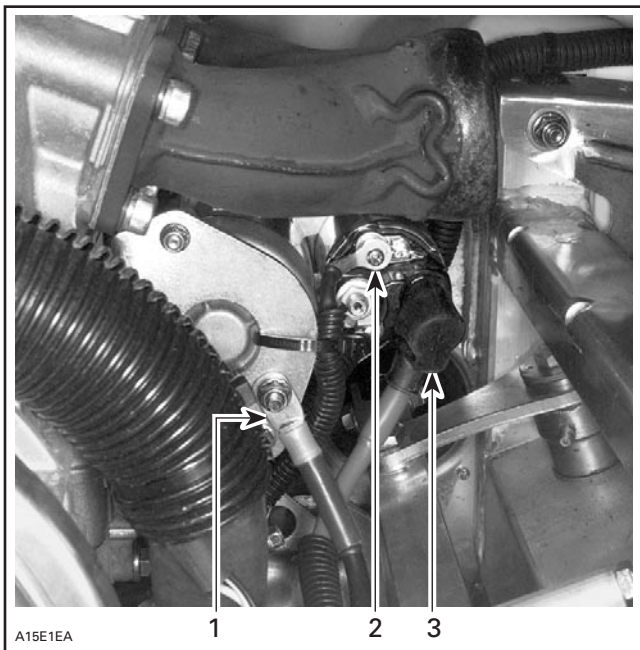
Wire/Cable Connections and Routing

Starting from starter location, route battery cables toward battery location along vehicle harness. The biggest hole of the RED positive cable connects to the starter.

Slide tubing **no. 35** protector cap **no. 18** (starter end of cable) and protector cap **no. 34** (battery end of cable) on RED positive battery cable **no. 17**. Install cable, flat washer M8 **no. 10**, lock washer M8 **no. 4** and hexagonal nut M8 **no. 19** to starter solenoid, turn cable angle as much as possible towards the engine. Cover terminal with previously installed protector cap.

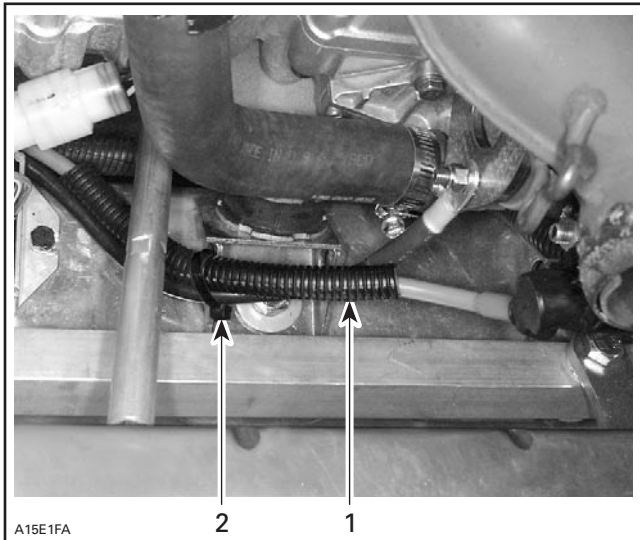
Connect and secure RED wire with eyelet terminal, previously pulled from main harness, to starter solenoid.

Connect battery BLACK negative ground cable **no. 14** to starter bracket carriage bolt using star washer **no. 15** between bracket and terminal; secure with flanged elastic nut **no. 16**.



1. BLACK negative cable connected to starter support MAG side
2. RED wire with eyelet terminal connected to solenoid
3. RED positive cable connected to solenoid

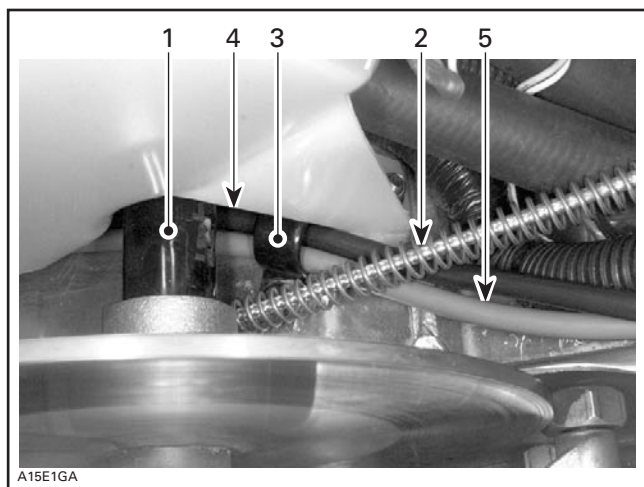
Route both cables toward battery alongside engine harness and secure with locking ties **no. 37** every 150 mm (6 in) more or less.



1. Tubing **no. 35**
2. Locking tie

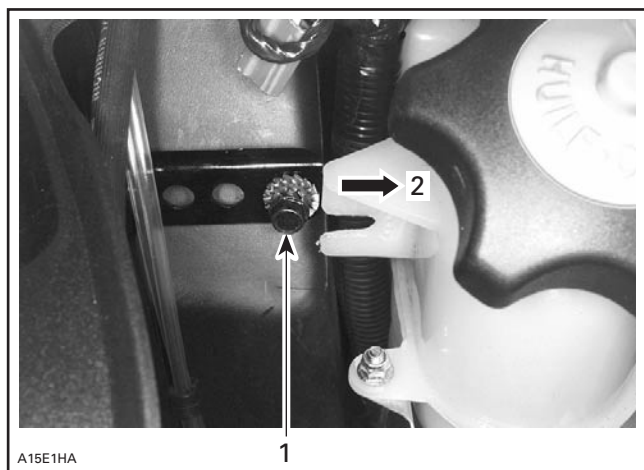
Cables must pass underneath rewind starter cord, under countershaft, behind oil reservoir and on top of choke cables, toward battery.

Drill a 5 mm (13/64 in) hole and retain both cables with clip **no. 21** at the rewind starter cord area, using self-tapping screw **no. 20**.



1. Countershaft
2. Rewind starter rope
3. Clip no. 21
4. BLACK negative cable
5. RED positive cable

To ease cable routing, undo coolant reservoir retaining screw just enough to push reservoir forward a bit.



1. Loosen this bolt
2. Move a bit forward

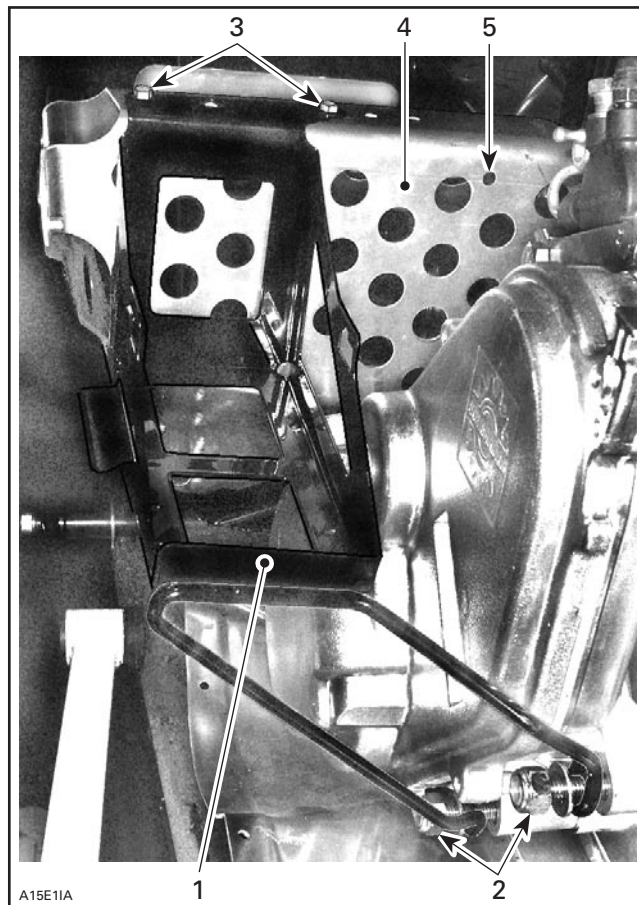
WARNING

Ensure all terminals are properly crimped on wires/cables and that all connector housings are properly fastened. Keep wires away from any rotating, moving, heating, vibrating and sharp edge parts. Use proper fastening devices as required.

Battery and Rack

Remove 2 lower nuts retaining chaincase cover.

Install battery seat rack **no. 27** as shown and secure with 2 hexagonal screws **no. 31** and 2 elastic stop nuts **no. 32** on top of right front foot rest and reinstall new chaincase cover elastic stop nuts **no. 33**.



1. Battery rack
2. Change these 2 nuts
3. Secure with 2 hexagonal screws **no. 31** and 2 elastic stop nuts **no. 32**
4. Footrest
5. Ground hole

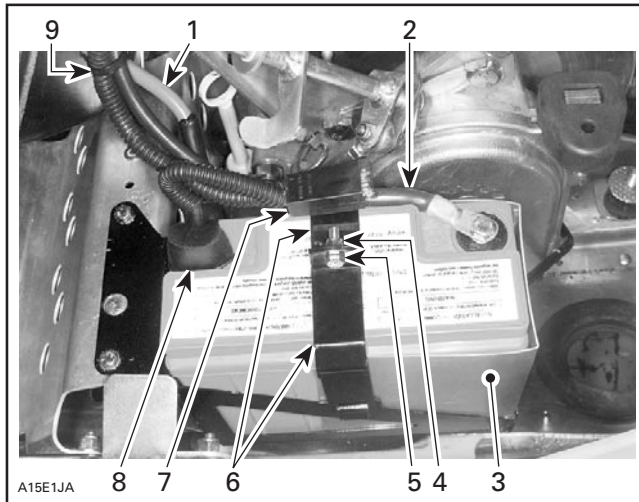
Install battery **no. 29** in rack, posts on engine side, with deflector **no. 28**.

Connect RED positive battery cable and RED wire with fuse (from ignition switch harness) to battery then connect BLACK ground cable. Secure BLACK negative cable in indentation of the battery retaining steel strip, engine side.

WARNING

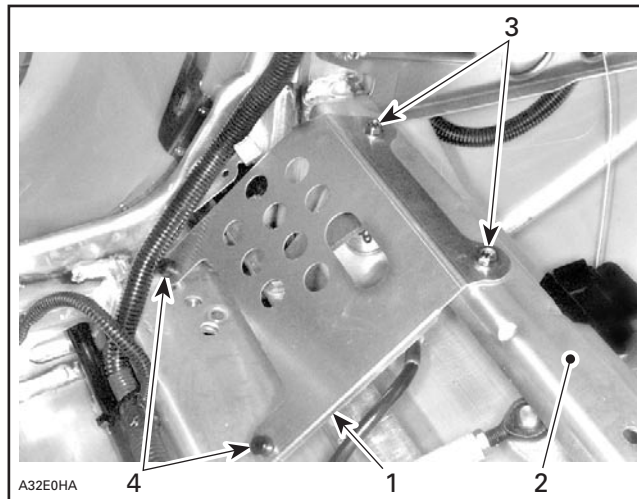
Always connect the battery cables exactly in the specified order. Connect RED positive cable first, then BLACK negative ground cable.

Secure battery in place with steel strips **no. 30**, hexagonal screw **no. 31** and elastic stop nut **no. 32**. Hook up fuse holder to retaining steel strip. Fasten battery cables using a locking tie **no. 37**.



1. RED positive cable
2. BLACK negative cable
3. Deflector no. 28
4. Elastic stop nut no. 32
5. Hexagonal screw no. 31
6. Steel strips no. 30
7. Fuse holder
8. Protector cap no. 34
9. Locking tie

Install black rubber plugs **no. 45** on protector **no. 42**. Position protector in place. Secure with hexagonal flanged screws **no. 44**.



ENGINE REMOVED

1. Protector
2. Snowmobile frame
3. Hexagonal screws
4. Rubber plugs

Finalizing Assembly

Refer to the appropriate *Ski-Doo Shop Manual* for proper reinstallation procedure.

Reinstall drive pulley.

Check pulley alignment.

WARNING

Drive pulley alignment must always be checked whenever pulleys have been removed, replaced or disassembled.

Reinstall remaining removed parts not forgetting to secure coolant reservoir retaining screw.

NOTE: Apply Dow Corning sealer no. 736 RTV on exhaust manifold ball joint.

Test electrical starting and ignition cut-out systems as per normal starting procedure for electric starter models.

Decal

Clean decal region with soapy water or isopropyl alcohol using a soft clean cloth and dry thoroughly.

CAUTION: Do not apply isopropyl alcohol on decal.

Remove backing from decal.

Apply decal **no. 36** on left side of hood.

The following table is to be consulted if and when a tightening torque is required but not specified.

Bold face size indicates nominal value (mean value).

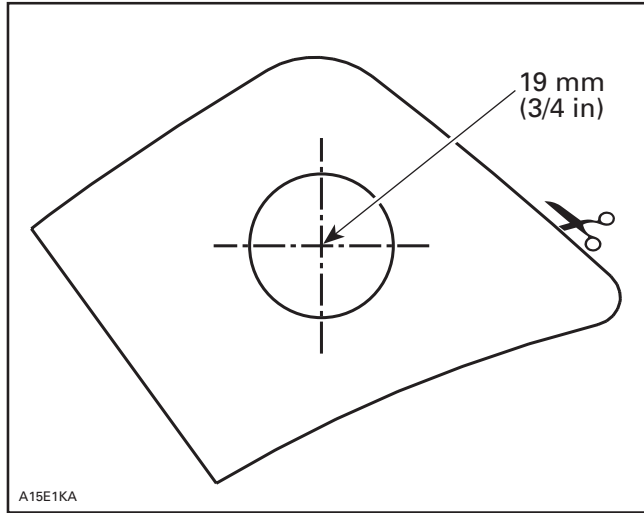
N•m	FASTENER SIZE (8.8 grade)	Lbf•in
2	M4	18
3	M4	27
4	M5	35
8	M6	71
9	M6	80
10	M6	89
11	M6	97
12	M6	106

N•m	FASTENER SIZE (8.8 grade)	Lbf•ft
21	M8	15
22	M8	16
23	M8	17
24	M8	18
25	M8	18
43	M10	32
44	M10	32
45	M10	33
46	M10	34
47	M10	35
48	M10	35
49	M10	36
50	M10	37
51	M10	38
52	M10	38
53	M10	39
76	M12	56
77	M12	57
78	M12	58
79	M12	58

N•m	FASTENER SIZE (8.8 grade)	Lbf•ft
80	M12	59
81	M12	60
82	M12	60
83	M12	61
84	M12	62
121	M14	89
122	M14	90
123	M14	91
124	M14	91
125	M14	92
126	M14	93
127	M14	94
128	M14	94
129	M14	95
130	M14	96
131	M14	97
132	M14	97
133	M14	98
134	M14	99
135	M14	100
136	M14	100
137	M14	101
138	M14	102
139	M14	103
140	M14	103
141	M14	104
142	M14	105
143	M14	105
144	M14	106
145	M14	107
146	M14	108
147	M14	108
148	M14	109
149	M14	110
150	M14	111

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TEMPLATE



861 504 600

1.	515 175 217	Regulator/Rectifier	Régulateur/redresseur
2.	515 175 142	Starter Support PTO Side	Support de démarreur, côté PDM
3.	207 182 044	Hexagonal Screw M8 x 20 (3)	Vis hexagonale M8 x 20 (3)
4.	234 181 401	Lock Washer M8 (6)	Rondelle-frein M8 (6)
5.	207 182 544	Hexagonal Screw M8 x 25 (2)	Vis hexagonale M8 x 25 (2)
6.	515 175 564	Starter	Démarreur
7.	515 175 143	Starter Support MAG Side	Support de démarreur, côté MAG
8.	233 251 414	Flanged Elastic Nut M5 (2)	Écrou élastique à épaulement M5 (2)
9.	391 301 700	Flat Washer M6 (2)	Rondelle plate M6 (2)
10.	234 081 410	Flat Washer M8 (2)	Rondelle plate M8 (2)
11.	207 762 044	Carriage Bolt M6 x 20	Boulon de carrosserie M6 x 20
12.	417 300 057	Ring Gear	Couronne de lancement
13.	236 281 684	Self-Tapping Screw M8 x 16 (6)	Vis autotaraudeuse M8 x 16 (6)
14.	515 175 168	BLACK Negative Ground Cable	Câble de masse négatif NOIR
15.	394 001 900	Star Washer M6	Rondelle en étoile M6
16.	233 261 414	Flanged Elastic Nut M6	Écrou élastique à épaulement M6
17.	515 175 167	RED Positive Battery Cable	Câble positif de batterie ROUGE
18.	570 064 200	Protector Cap (at starter)	Capuchon de protection (démarreur)
19.	232 081 414	Hexagonal Nut M8	Écrou hexagonal M8
20.	210 361 280	Self-Tapping Screw M6 x 12	Vis autotaraudeuse M6 x 12
21.	415 018 200	Clip	Pince
22.	515 175 171	Fusible Wiring Harness	Faisceau de fils de fusible
23.	410 113 602	Switch	Interrupteur
24.	394 103 300	Star Lock Washer	Rondelle-frein en étoile
25.	410 112 100	Face Nut	Écrou
26.	570 013 700	Switch Protector	Cache d'interrupteur
27.	515 175 243	Battery Seat	Siège de batterie
28.	515 175 363	Deflector	Défecteur
29.	710 000 283	Battery	Batterie
30.	515 175 226	Steel Strip (2)	Bande d'acier (2)
31.	207 151 644	Hexagonal Screw M5 x 16 (3)	Vis hexagonale M5 x 16 (3)
32.	233 251 414	Elastic Stop Nut M5 (3)	Écrou d'arrêt élastique M5 (3)
33.	233 601 416	Elastic Stop Nut M10 (2)	Écrou d'arrêt élastique M10 (2)
34.	570 151 000	Protector Cap (at battery)	Capuchon de protection (batterie)

861 504 600

35.	415 079 900	Tubing	Tube
36.	418 001 300	Decal	Autocollant
37.	414 115 200	Locking Tie (8)	Attache (8)
38.	420 866 757	Counterweight	Contrepoids
39.	420 852 411	Starting Pulley	Poulie de démarrage
40.	207 182 044	Hexagonal Screw M8 x 20 (3)	Vis hexagonale M8 x 20 (3)
41.	420 945 752	Lock Washer M8 (3)	Rondelle-frein M8 (3)
42.	515 175 536	Protector	Protecteur
43.	415 107 300	Insert (2)	Pièce d'ancrage (2)
44.	207 661 644	Hexagonal Flanged Screw M6 x 16 (2)	Vis hexagonale à épaulement M6 x 16 (2)
45.	293 830 005	Black Rubber Plug (2)	Bouchon de caoutchouc noir (2)



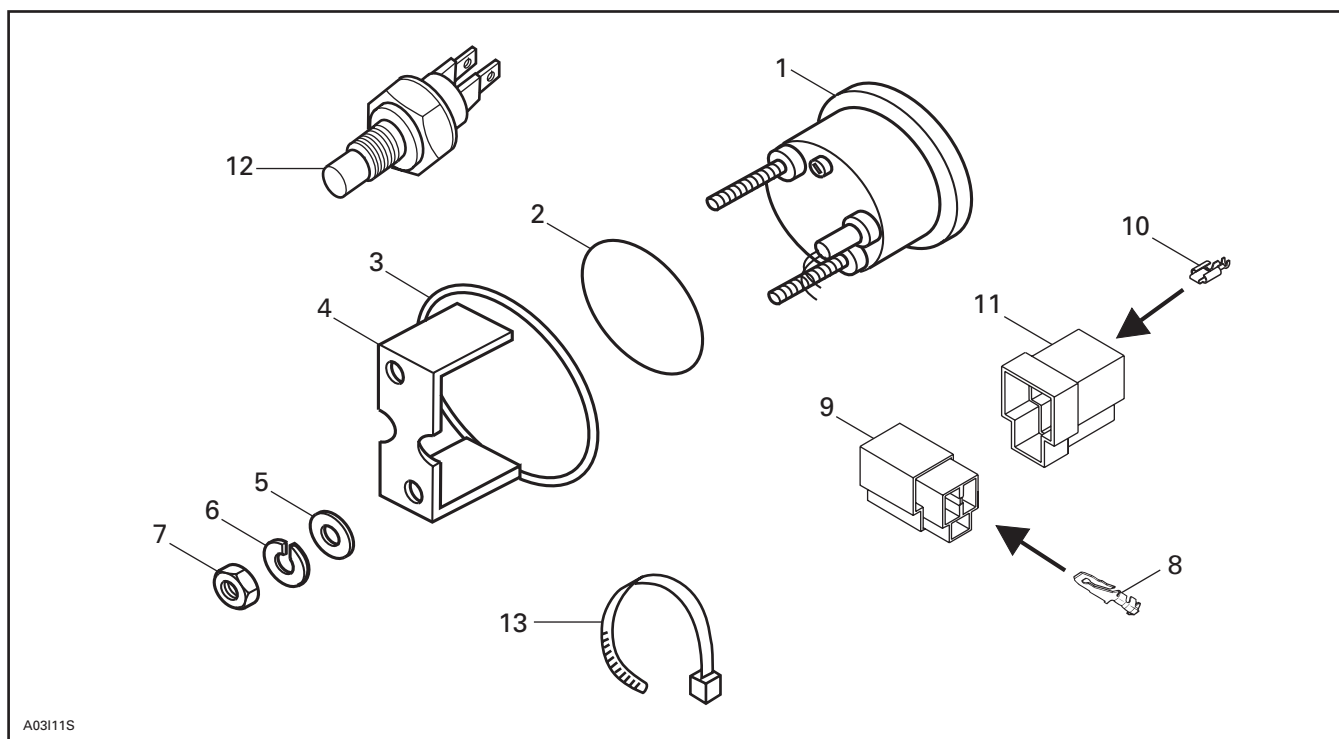
**TEMPERATURE GAUGE KIT
(P/N 861 505 800)**

⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. This instruction sheet should be given to the purchaser. This kit is designed for specific applicable models only. It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 0.5 hour.

PARTS TO BE INSTALLED



- 1. Temperature Gauge
- 2. Gauge Packing
- 3. Formed Washer
- 4. Gauge Holder
- 5. Flat Washer (2)
- 6. Lock Washer (2)
- 7. Nut (2)

- 8. Male Connector (3)
- 9. 3-Connector Male Housing
- 10. Female Connector (3)
- 11. 3-Connector Female Housing
- 12. Analogic Temperature Sensor
- 13. Locking Tie

TEMPERATURE SENSOR

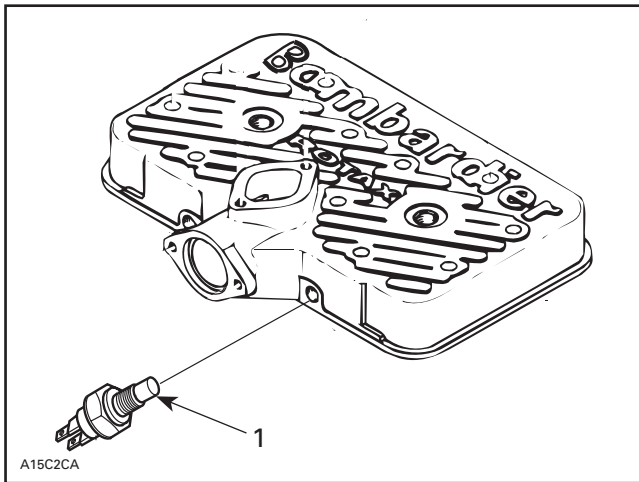
WARNING

This procedure must be performed when engine is cold and turned off.

Disconnect connectors from temperature sensor on engine.

Apply pipe sealant (P/N 293 800 018) on threads of new sensor **no. 12**.

NOTE: The new sensor is a variable resistor instead of a thermo-switch.



1. Sensor

Unscrew sensor from engine and quickly plug hole using your finger until ready to install new sensor.

Install new sensor.

Torque sensor to 6 N•m (53 lbf•in).

Reconnect connectors (polarity is not important).

Unplug VIOLET wire from 3-connector housing and move it to the free slot. (Connector location is near the water expansion tank).

Reinstall connector and bracket.

TEMPERATURE GAUGE

Remove windshield, if necessary.

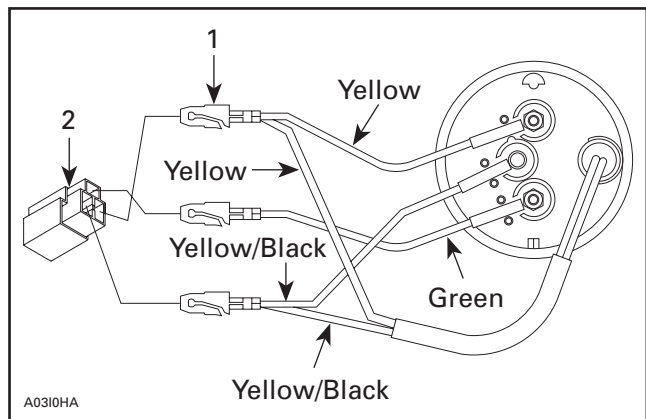
Remove intake cover, if equipped.

Position template (supplied on last page of this instruction sheet) over dashboard decal. Using a hole saw, drill a 63.5 mm (2.5 in) hole in LH side of dashboard.

WARNING

Make sure there are no wires behind dashboard in order to avoid any damages.

Install male connectors **no. 8** on wires and position in 3-connector housing **no. 9** as per the following illustration.



1. Male connector

2. 3-connector housing

Skandic WT LC Model Only

Remove 4-connector housing and previous connectors.

Replace them with 3-connector female housing **no. 11** and female connector **no. 10**.

All Models

Install gauge packing **no. 2** on temperature gauge **no. 1** then install into dashboard.

Install formed washer **no. 3** then gauge holder **no. 4**.

Install washers **no. 5**, lock washers **no. 6** and tighten with nuts **no. 7**.

Connect housing.

Secure gauge harness with locking tie **no.13**.

Reinstall intake cover, if equipped.

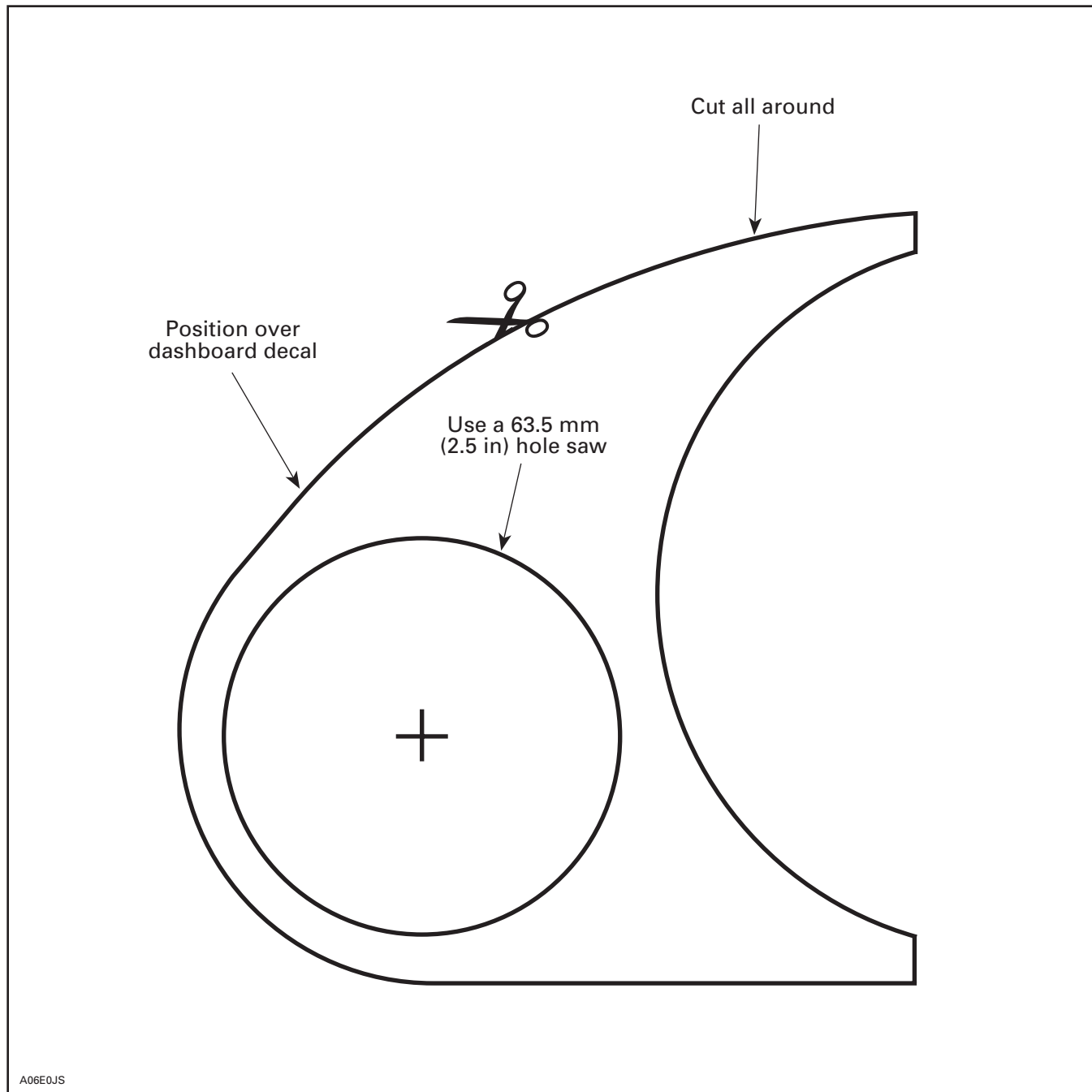
Reinstall windshield, if necessary.

Test gauge operation and ensure there are no fluid leaks at sender.

Replenish cooling system if necessary.

DRILLING TEMPLATE

Use this template to properly drill hole for gauge in dashboard.
Hole is to be drilled on left hand side.



861 505 800

1.	515 175 342	Temperature Gauge	Indicateur de température
2.	414 807 200	Gauge Packing	Joint torique
3.	517 258 600	Formed Washer	Rondelle formée
4.	414 806 600	Gauge Holder	Support d'indicateur
5.	391 301 700	Flat Washer (2)	Rondelle plate (2)
6.	414 833 700	Lock Washer (2)	Rondelle-frein (2)
7.	414 833 600	Nut (2)	Écrou (2)
8.	409 210 000	Male Connector (3)	Raccord mâle (3)
9.	409 209 300	3-Connector Male Housing	Logement de raccords mâles à 3 circuits
10.	515 175 253	Female Connector (3)	Raccord femelle (3)
11.	409 204 300	3-Connector Female Housing	Logement de raccords femelles à 3 circuits
12.	414 728 700	Analogic Temperature Sensor	Sonde de température analogique
13.	414 115 200	Locking Tie	Attache



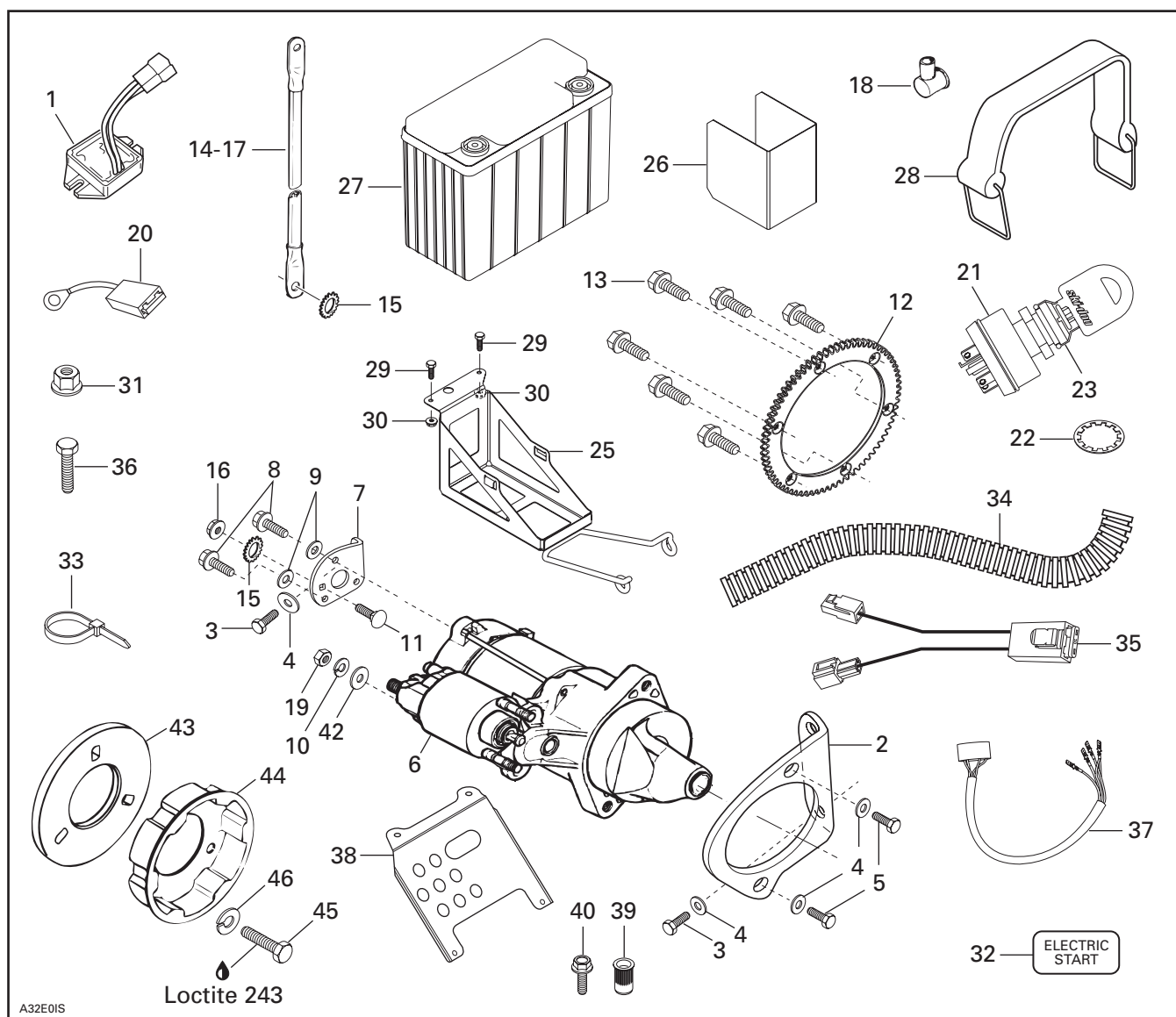
**ELECTRIC STARTER KIT
(P/N 861 506 200)**

⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. This instruction sheet should be given to the purchaser. This kit is designed for specific applicable models only. It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 2.5 hour.

PARTS TO BE INSTALLED



1. Voltage Regulator
2. Starter Support PTO Side
3. Flanged Hexagonal Screw M8 x 20 (with Scotch Grip) (3)
4. Flat Washer M8 with Teflon (5)
5. Flanged Hexagonal Screw M8 x 20 (with Scotch Grip) (2)
6. Starter
7. Starter Support MAG Side
8. Hexagonal Screw M6 x 16 (with Scotch Grip) (3)
9. Flat Washer M6 (3)
10. Lock Washer M8
11. Carriage Bolt M6 x 20
12. Ring Gear
13. Self-Tapping Screw M8 x 16 (6)
14. BLACK Negative Ground Cable (2)
15. Star Washer M6 (3)
16. Elastic Flanged Nut M6
17. RED Positive Battery Cable
18. Protector Cap (2)
19. Hexagonal Nut M8
20. Fusible Wiring Harness
21. Switch
22. Star Lock Washer

23. Face Nut
24. Switch Protector (not illustrated)
25. Battery Seat
26. Deflector
27. Battery
28. Battery Strap
29. Hexagonal Screw M5 x 16 (2)
30. Elastic Stop Nut M5 (2)
31. Flanged Elastic Stop Nut M10 (2)
32. Decal
33. Locking Tie (8)
34. Tubing (3 ft)
35. Fuse-Ground Harness
36. Hexagonal Screw M6 x 16
37. Switch Harness
38. Protector
39. Insert (2)
40. Hexagonal Flanged Screw M6 x 16 (2)
41. Black Rubber Plug (2) (not illustrated)
42. Flat Washer M8
43. Counterweight
44. Starting Pulley
45. Hexagonal Screw M8 x 20 (3)
46. Lock Washer M8 (3)

INSTRUCTIONS

Vehicle Preparation

Remove tuned pipe, muffler, belt guard, drive belt, air intake silencer.

Open bottom pan door and loosen drive pulley retaining screw for later removal.

Voltage Regulator

Remove original regulator/rectifier, located along RH side member of frame. Secure voltage regulator **no. 1** on both sides with same self-tapping bolts. On left side, install BLACK negative ground cable **no. 14** and star washer M6 **no. 15**.

Apply silicone dielectric grease (P/N 293 550 004) in voltage regulator connector and then connect it to vehicle harness connector. Secure connectors with a locking tie **no. 33**.

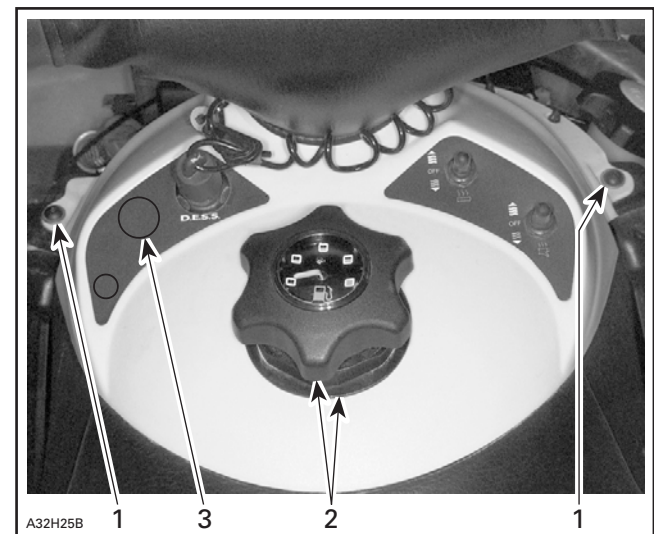
Ignition Switch

Remove steering pad.

Remove upper screw retaining both left and right consoles.

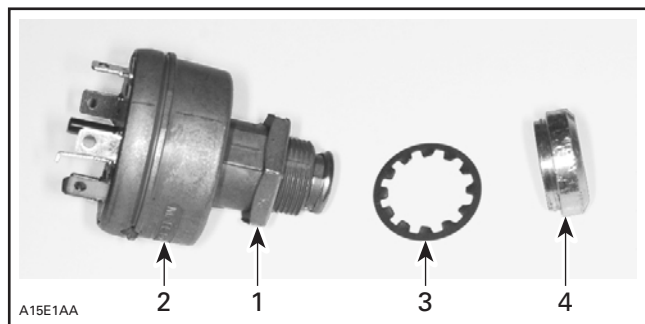
Remove fuel tank cap and retaining ring using console tightening wrench (P/N 529 035 603).

Using template (last page of this sheet), mark center hole for switch location, beside DESS connector.



1. Remove these screws
2. Remove cap and retaining ring
3. Use this space

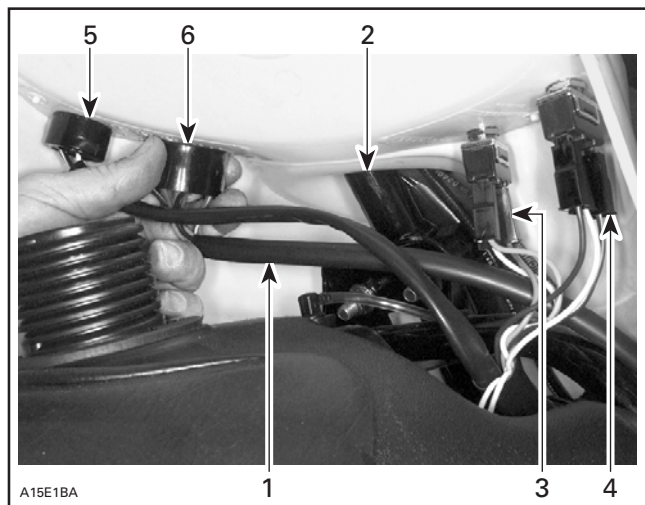
Using a 19 mm (3/4 in) hole saw, drill through dash. Tighten nut onto ignition switch **no. 21**, slide star lock washer **no. 22** onto switch then insert switch through hole from underneath and secure on top with face nut **no. 23**.



1. Nut
2. Ignition switch
3. Star lock washer
4. Face nut

Install rubber protector **no. 24** on top of switch.

Connect switch harness **no. 37** to ignition switch then, lift dash and route switch harness behind steering column but in front of heated thumb/handle connectors, leading toward multi-connector.

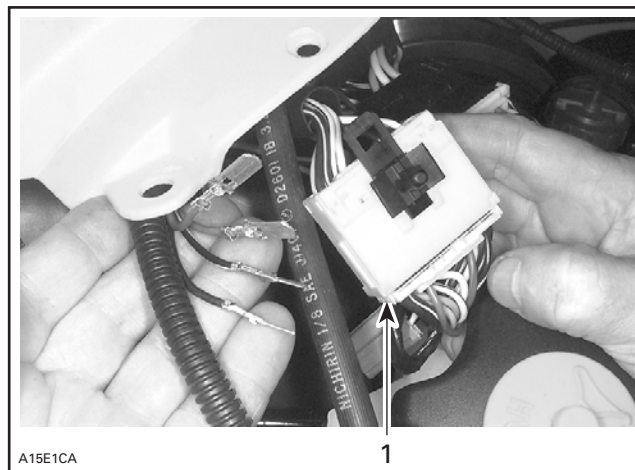


1. Fusible wiring harness
2. Steering column
3. Heated handle connector
4. Heated thumb connector
5. DESS connector
6. Ignition switch connector

Disengage retaining dart of multi-connector from console, open it and insert terminals in proper holes as follows:

- BLACK wire in hole no. 15
- BLACK/YELLOW wire in hole no. 14
- RED/BLUE wire in hole no. 13
- RED/WHITE wire in hole no. 12 and
- RED/GREEN wire in hole no. 11.

Close multi-connector.



TYPICAL

1. Use this multi-connector

Flywheel and Starting Pulley

All Model-Years except 2001

Remove rewind starter.

Unscrew starting pulley. Remove it and install counterweight **no. 43** and new starting pulley **no. 44**.

Secure with screws **no. 45** and lock washers **no. 46**. Apply Loctite 243 on threads.

Torque to 21 N•m (15 lbf•ft).

Reinstall rewind starter.

Ring Gear

All Models

Remove drive pulley. Refer to appropriate *Shop Manual* to perform drive pulley disassembly/assembly procedures and to proceed with pulley alignment.

Secure ring gear **no. 12** on inner half using self-tapping screws **no. 13**. Apply Loctite 271 (red) on screw threads.

CAUTION: Loctite 271 (red) must be applied to safely assemble ring gear.

Torque screws in a criss-cross sequence to 27 N•m (20 lbf•ft).

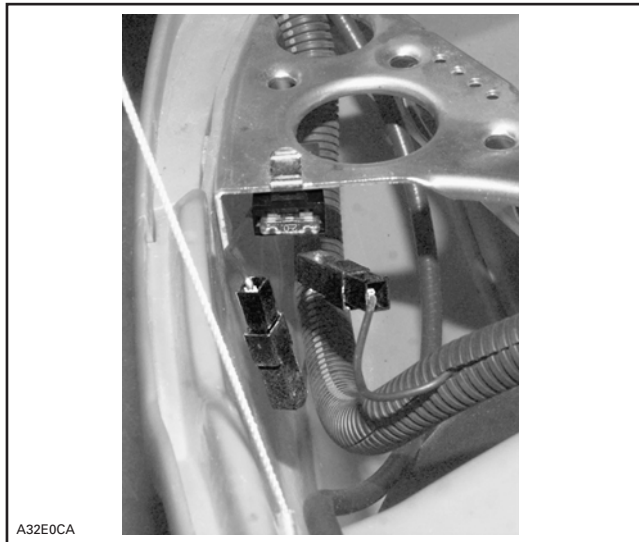
Do not reinstall drive pulley at this time.

Protection Fuse

Disconnect connector on hood electrical harness. See photo below.

Clip fuse-ground harness **no. 35** (with fuse) on frame.

Connect fuse-ground harness wires to connector housings.



INSTALLATION COMPLETED

Protector Installation

Align protector **no. 38** with leftmost hole on frame front wall and use protector as a template to drill second hole. See photo page 6.

Using a 10 mm (25/64 in) bit, drill second hole.

From outside, slide insert **no. 39** in holes.

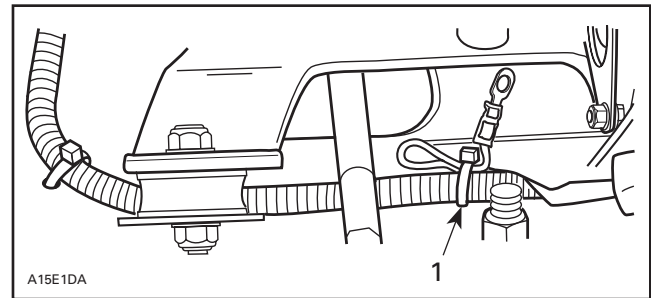
Squeeze it tight on frame by tightening a screw **no. 40** on the outside and retaining the insert with a pair of pliers on the inside.

Once insert squeezed, remove screw **no. 40**.

Electric Starter

CAUTION: For a safe installation of starter and its components, it is necessary to tighten all M8 bolts to 29 N•m (21 lbf•ft) and all M6 bolts to 11 N•m (97 lbf•in).

From main harness underneath engine cut locking tie and pull out RED wire with the eyelet terminal toward the starter position.



1. Locking tie

Install starter support PTO side **no. 2** to engine using hexagonal screws (with Scotch Grip) **no. 3** and flat washers with Teflon **no. 4**. Tighten firmly.

Install starter support MAG side **no. 7** to starter after inserting carriage bolt **no. 11**, and secure with hexagonal screws **no. 8** and flat washers **no. 9**. Do not tighten.

Install electric starter **no. 6** on PTO side support, bottom bolts first and secure it using M8 x 20 hexagonal screws (with Scotch Grip) **no. 5** and flat washers with Teflon M8 **no. 4**. Do not tighten.

Secure MAG side support to engine with M8 x 20 hexagonal screw (with Scotch Grip) **no. 3**, and flat washer with Teflon **no. 4**. Do not tighten.

Tighten both PTO side support screws to starter.

Tighten MAG side support screw to engine.

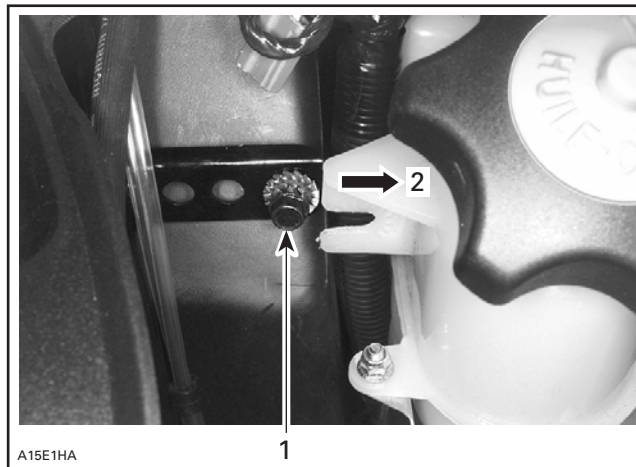
Tighten MAG support screws to starter.

Wire/Cable Connections and Routing

Insert RED cable **no. 17** in tubing **no. 34**. Starting from Starter location, route tubing toward battery location along cooling hose and between fuel tank and oil tank. The biggest hole of the RED positive cable connects to the starter.

Secure tubing with RED wire on cooling hose with locking ties **no. 33** every 150 mm (6 in) more or less.

To ease cable routing, undo coolant reservoir retaining screw just enough to push reservoir forward a bit.



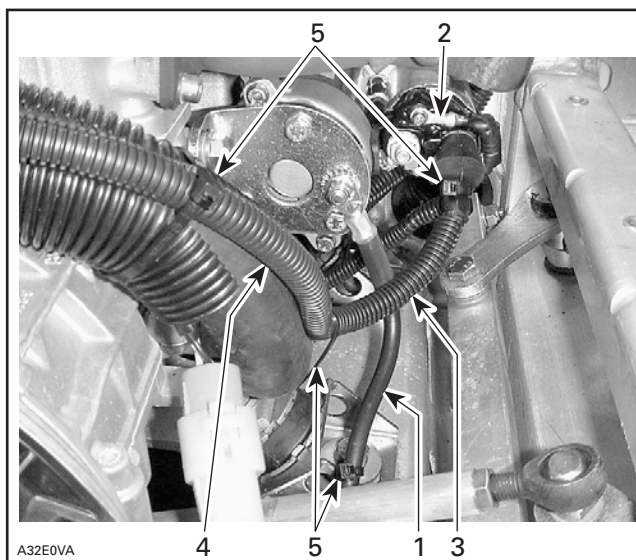
TYPICAL

1. Remove this bolt
2. Move a bit forward

Slide a protector cap **no. 18** (starter end of cable) and another protector cap **no. 18** (battery end of cable) on RED positive battery cable **no. 17**. Install cable, flat washer M8 **no. 42**, lock washer M8 **no. 10** and nut M8 **no. 19** to starter solenoid. Torque to 13 N•m (9.5 lbf•ft). Cover terminal with previously installed protector cap.

Connect and secure RED wire with eyelet terminal, previously pulled from main harness, to starter solenoid.

Connect the other side of BLACK negative cable **no. 14** coming from rectifier to starter bracket carriage bolt using star washer **no. 15** between bracket and terminal; secure with elastic nut **no. 16**.



1. BLACK negative cable connected to starter support MAG side
2. RED wire with eyelet terminal connected to solenoid
3. RED positive cable connected to solenoid
4. Tubing **no. 34**
5. Locking ties

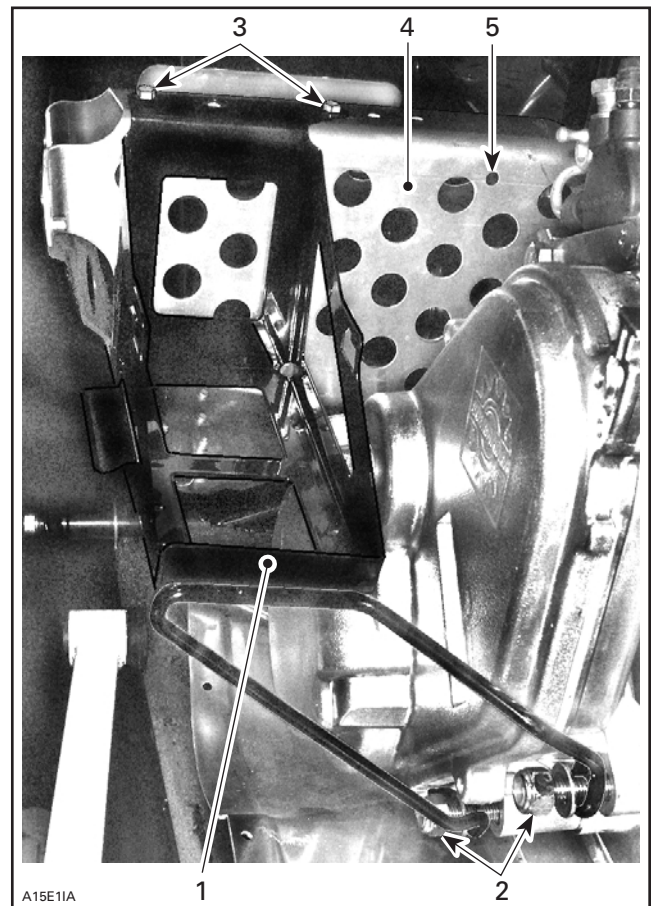
⚠ WARNING

Ensure all terminals are properly crimped on wires/cables and that all connector housings are properly fastened. Keep wires away from any rotating, moving, heating, vibrating and sharp edge parts. Use proper fastening devices as required.

Battery and Rack

Remove 2 lower nuts retaining chaincase cover.

Install battery rack **no. 25** as shown and secure with 2 screws **no. 29** and 2 elastic nuts **no. 30** on top of right front foot rest and reinstall new chaincase cover nuts **no. 31**.



TYPICAL

1. Battery rack
2. Change these 2 nuts
3. Secure with 2 screws **no. 29** and 2 nuts **no. 30**
4. Footrest
5. Ground hole

Battery Testing and Activation

Check charge condition using a multimeter.

With a multimeter, voltage readings appear instantly to show the state of charge. Always respect polarity. A fully charged battery will have a reading of 12.6 Vdc.

WARNING

Never charge or boost battery while installed on vehicle.

If not charged, connect a 10 A battery charger for few hours.

WARNING

Gases given off by a battery being charged are highly explosive. Always charge in a well ventilated area. Keep battery away from cigarettes or open flames. Always turn battery charger off prior to disconnecting cables. Otherwise a spark will occur and battery might explode.

NOTE: It is recommended to verify the battery charge once a month. If necessary, fully charge.

Install battery **no. 27** in rack, posts on engine side, with deflector **no. 26**.

Cut locking ties from console strand and set fuse wire RED/YELLOW into fuse holder **no. 20**.

Secure BLACK ground cable to footrest hole with bolt M6 **no. 36**, washer M6 **no. 15** and nut M6 **no. 16**.

Connect RED positive battery cable and RED wire with fuse (from ignition switch harness) to battery then connect BLACK ground cable. Coat battery posts and connectors with silicone dielectric grease (P/N 413 701 700).

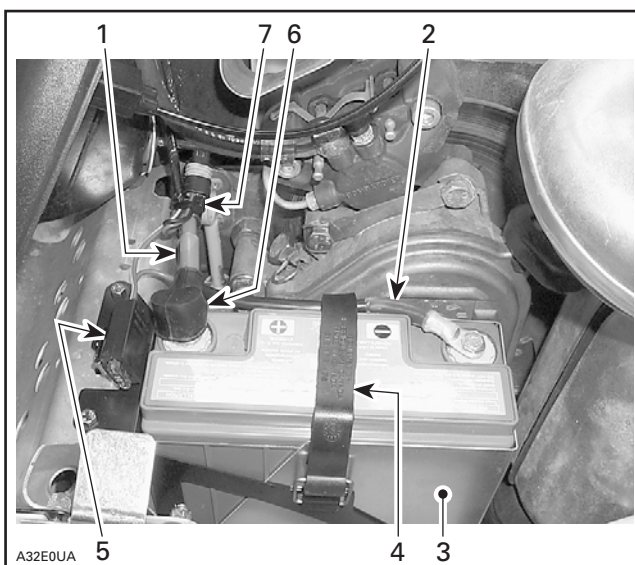
WARNING

Always connect the battery cables exactly in the specified order. Connect RED positive cable first, then BLACK negative ground cable.

Secure battery in place with strap **no. 28**. Secure also BLACK negative cable in strap, engine side.

Hook up fuse holder to retaining RED battery cable using locking tie **no. 33**.

Fasten battery cables using a locking tie **no. 33**.

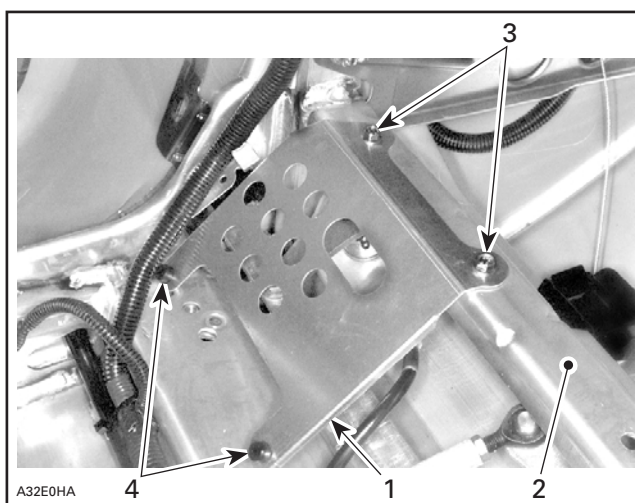


1. RED positive cable
2. BLACK negative cable
3. Deflector
4. Battery strap
5. Fuse holder
6. Protector cap
7. Locking tie

Install black rubber plugs **no. 41** on protector.

Position protector **no. 38** in place.

Secure with screws **no. 40**.



ENGINE REMOVED

1. Protector
2. Snowmobile frame
3. Hexagonal screws
4. Rubber plugs

Finalizing Assembly

Refer to the appropriate *Ski-Doo Shop Manual* for proper reinstallation procedure.

Reinstall drive pulley.

Check pulley alignment.

WARNING

Drive pulley alignment must always be checked whenever pulleys have been removed, replaced or disassembled.

Reinstall remaining removed parts not forgetting to secure coolant reservoir retaining screw.

NOTE: Apply Dow Corning sealer no. 736 RTV on exhaust manifold ball joint.

Test electrical starting and ignition cut-out systems as per normal starting procedure for electric starter models.

Decal

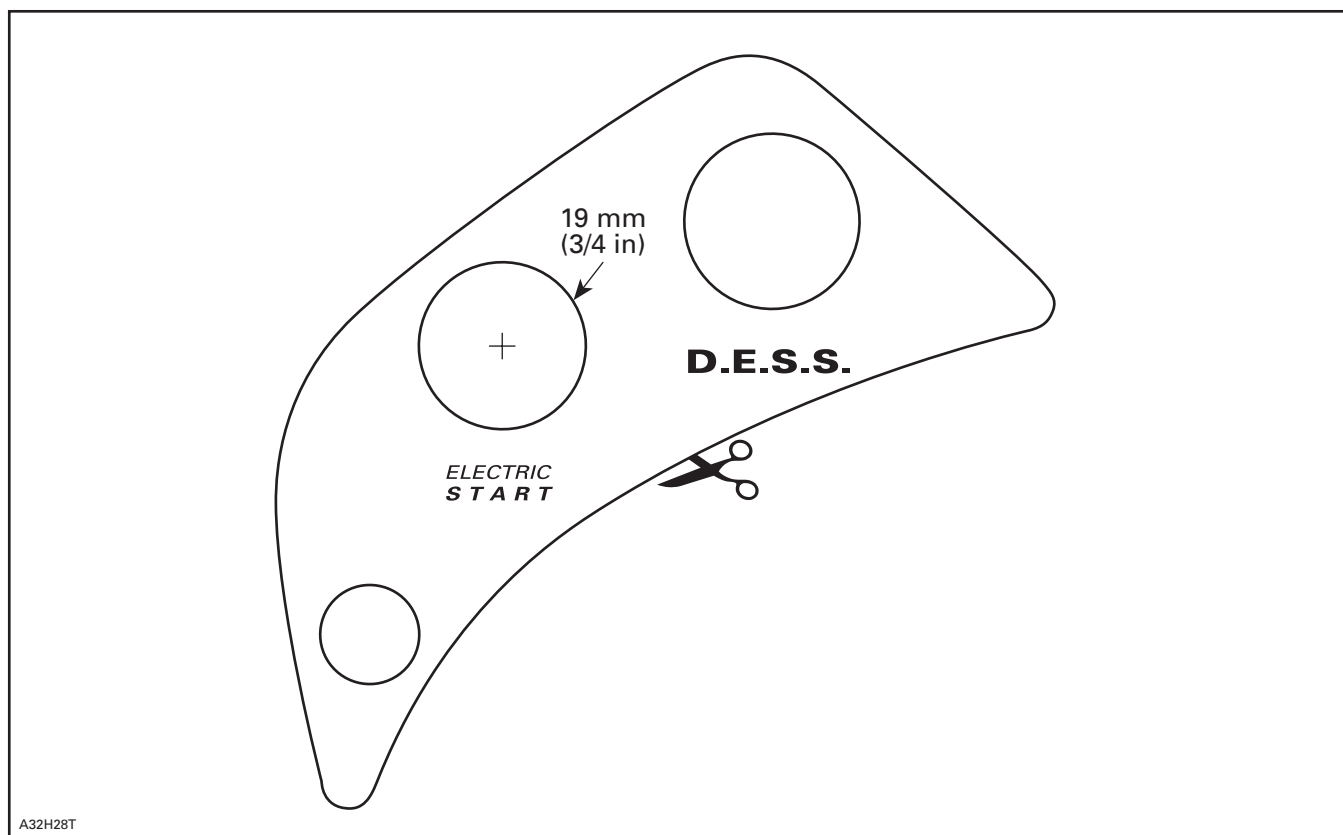
Clean decal region with soapy water or isopropyl alcohol using a soft clean cloth and dry thoroughly.

CAUTION: Do not apply isopropyl alcohol on decal.

Remove backing from decal.

Apply decal **no. 32** on left side of hood.

TEMPLATE



861 506 200

1.	515 175 217	Voltage Regulator	Régulateur de tension
2.	515 175 142	Starter Support PTO Side	Support de démarreur, côté PDM
3.	207 582 044	Flanged Hexagonal Screw M8 x 20 (with Scotch Grip) (3)	Vis hexagonale à épaulement M8 x 20 (avec Scotch Grip) (3)
4.	250 200 008	Flat Washer with Teflon M8 (5)	Rondelle plate avec Teflon M8 (5)
5.	207 582 044	Flanged Hexagonal Screw M8 x 20 (with Scotch Grip) (2)	Vis hexagonale à épaulement M8 x 20 (avec Scotch Grip) (2)
6.	515 175 565	Starter	Démarreur
7.	515 175 441	Starter Support MAG Side	Support de démarreur, côté MAG
8.	207 361 644	Hexagonal Screw M6 x 16 (with Scotch Grip) (3)	Vis hexagonale M6 x 16 (avec Scotch Grip) (3)
9.	234 061 410	Flat Washer M6 (3)	Rondelle plate M6 (3)
10.	234 181 401	Lock Washer M8	Rondelle-frein M8
11.	207 762 044	Carriage Bolt M6 x 20	Boulon de carrosserie M6 x 20
12.	417 300 057	Ring Gear	Couronne de lancement
13.	236 281 684	Self-Tapping Screw M8 x 16 (6)	Vis autotaraudeuse M8 x 16 (6)
14.	515 175 483	BLACK Negative Ground Cable (2)	Câble de masse négatif NOIR (2)
15.	250 200 000	Star Washer M6 (3)	Rondelle en étoile M6 (3)
16.	233 261 414	Elastic Flanged Nut M6	Écrou élastique à épaulement M6
17.	515 175 482	RED Positive Battery Cable	Câble positif de batterie ROUGE
18.	570 151 000	Protector Cap (2)	Capuchon de protection (2)
19.	232 081 414	Hexagonal Nut M8	Écrou hexagonal M8
20.	515 175 489	Fusible Wiring Harness	Faisceau de fils de fusible
21.	410 111 300	Switch	Interrupteur
22.	394 103 300	Star Lock Washer	Rondelle-frein en étoile
23.	410 112 100	Face Nut	Écrou
24.	570 013 700	Switch Protector (not illustrated)	Cache d'interrupteur (non illustrée)
25.	515 175 556	Battery Seat	Siège de batterie
26.	515 175 561	Deflector	Déflexeur
27.	515 175 560	Battery	Batterie
28.	515 175 475	Battery Strap	Courroie de batterie
29.	207 151 644	Hexagonal Screw M5 x 16 (2)	Vis hexagonale M5 x 16 (2)
30.	233 251 414	Elastic Stop Nut M5 (2)	Écrou d'arrêt élastique M5 (2)
31.	233 201 414	Flanged Elastic Stop Nut M10 (2)	Écrou d'arrêt élastique à épaulement M10 (2)
32.	418 001 300	Decal	Autocollant
33.	414 115 200	Locking Tie (8)	Attache (8)

861 506 200

34.	409 901 700	Tubing (3 ft)	Tube (3 pi)
35.	515 175 490	Fuse-Ground Harness	Faisceau de fils fusible/masse
36.	207 161 644	Hexagonal Screw M6 x 16	Vis hexagonale M6 x 16
37.	515 175 541	Switch Harness	Faisceau de fils de l'interrupteur
38.	515 175 536	Protector	Protecteur
39.	415 107 300	Insert (2)	Pièce d'ancrage (2)
40.	207 661 644	Hexagonal Flanged Screw M6 x 16 (2)	Vis à épaulement hexagonale M6 x 16 (2)
41.	293 830 005	Black Rubber Plug (2) (not illustrated)	Bouchon de caoutchouc noir (2) (non illustré)
42.	234 081 410	Flat Washer M8	Rondelle plate M8
43.	420 866 757	Counterweight	Contrepoids
44.	420 852 411	Starting Pulley	Poulie de démarrage
45.	207 182 044	Hexagonal Screw M8 x 20 (3)	Vis hexagonale M8 x 20 (3)
46.	420 945 752	Lock Washer M8 (3)	Rondelle-frein M8 (3)

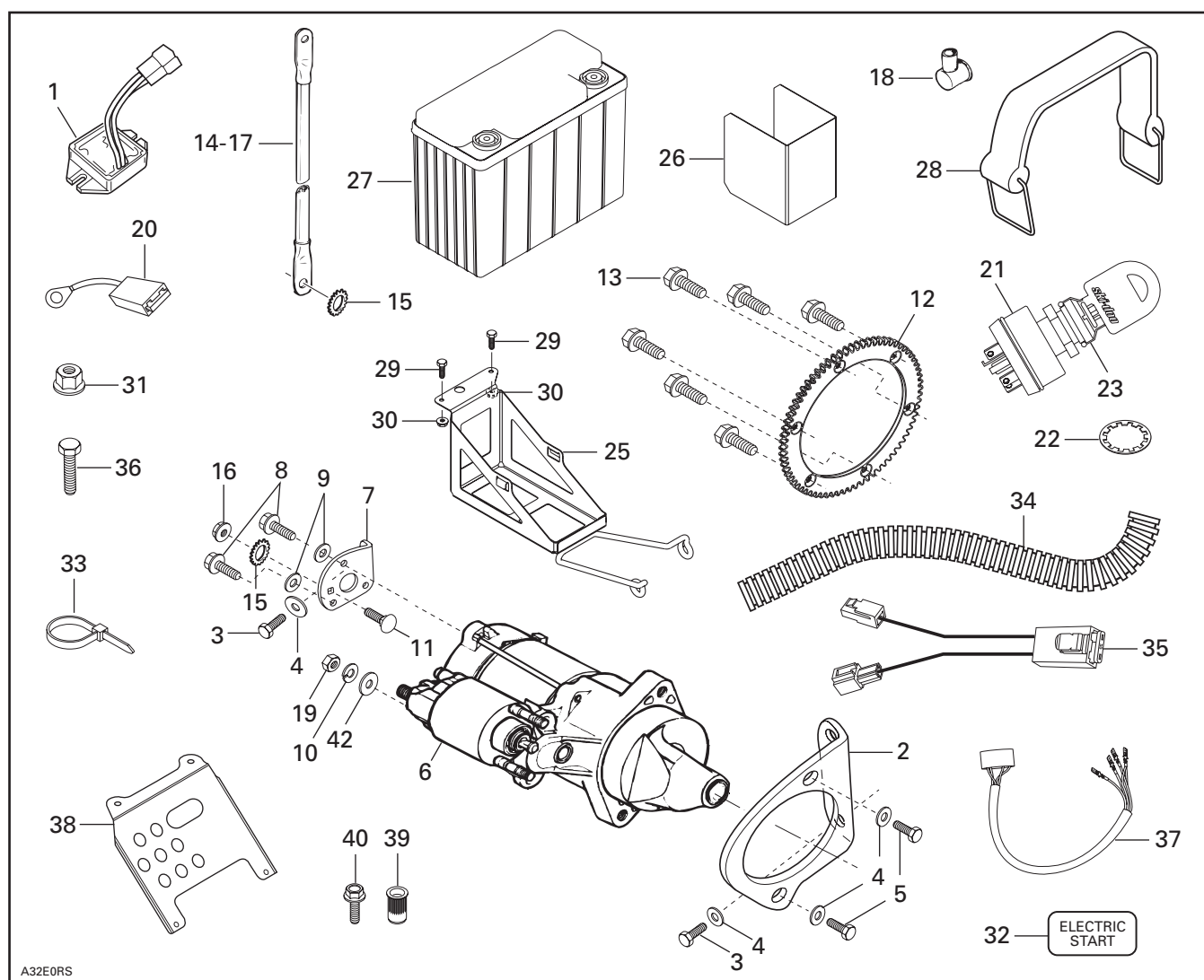
**ELECTRIC STARTER KIT
(P/N 861 506 300)**

⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. This instruction sheet should be given to the purchaser. This kit is designed for specific applicable models only. It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 2.5 hours.

PARTS TO BE INSTALLED



1. Voltage Regulator
2. Starter Support PTO Side
3. Flanged Hexagonal Screw M8 x 20 (with Scotch Grip) (3)
4. Flat Washer M8 with Teflon (5)
5. Flanged Hexagonal Screw M8 x 20 (with Scotch Grip) (2)
6. Starter
7. Starter Support MAG Side
8. Hexagonal Screw (with Scotch Grip) (3)
9. Flat Washer M6 (3)
10. Lock Washer M8
11. Carriage Bolt M6 x 20
12. Ring Gear
13. Self-Tapping Screw M8 x 16 (6)
14. BLACK Negative Ground Cable (2)
15. Star Washer M6 (3)
16. Elastic Flanged Nut M6
17. RED Positive Battery Cable
18. Protector Cap (2)
19. Hexagonal Nut M8
20. Fusible Wiring Harness

21. Switch
22. Star Lock Washer
23. Face Nut
24. Switch Protector (not illustrated)
25. Battery Rack
26. Deflector
27. Battery
28. Battery Strap
29. Hexagonal Screw M5 x 16 (2)
30. Elastic Stop Nut M5 (2)
31. Flanged Elastic Stop Nut M10 (2)
32. Decal
33. Locking Tie (8)
34. Tubing (3 ft)
35. Fuse-Ground Harness
36. Hexagonal Screw M6 x 16
37. Switch Harness
38. Protector
39. Insert (2)
40. Hexagonal Flanged Screw M6 x 16 (2)
41. Black Rubber Plug (2) (not illustrated)
42. Flat Washer M8

INSTRUCTIONS

Vehicle Preparation

Remove tuned pipe, muffler, belt guard, drive belt, air intake silencer.

Loosen drive pulley retaining screw for later removal.

Voltage Regulator

Remove original regulator/rectifier, located along RH side member of frame. Secure voltage regulator **no. 1** on both sides with same self-tapping bolts. On one side, install BLACK negative ground cable **no. 14** and star washer M6 **no. 15**.

Apply silicone dielectric grease (P/N 293 550 004) in voltage regulator connector and then connect it to vehicle harness connector. Secure connectors with a locking tie **no. 33**.

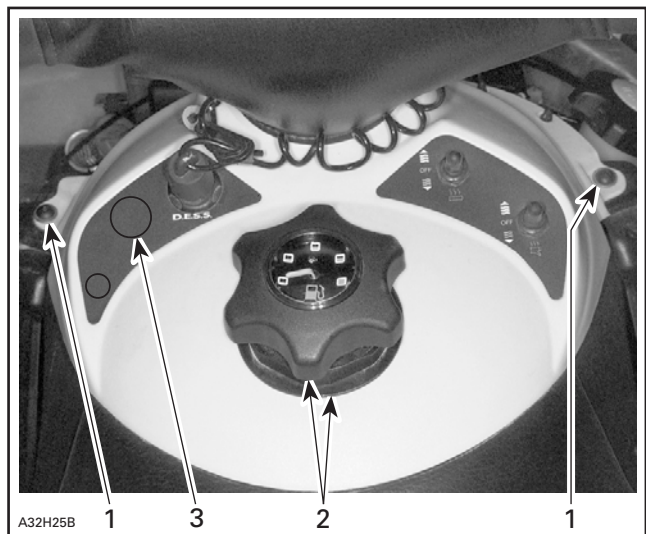
Ignition Switch

Remove steering pad.

Remove upper screw retaining both left and right consoles.

Remove fuel tank cap and retaining ring using console tightening wrench (P/N 529 035 603).

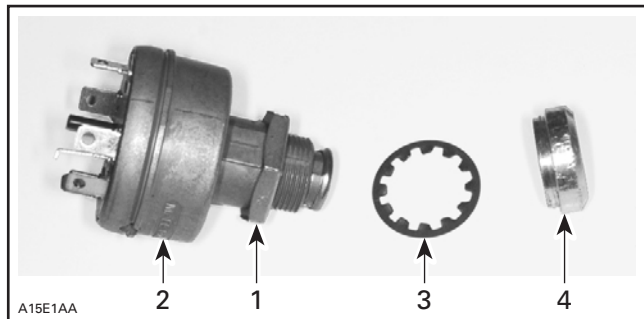
Using template (last page of this sheet), mark center hole for switch location, beside DESS connector.



1. Remove these screws
2. Remove cap and retaining ring
3. Use this space

Using a 19 mm (3/4 in) hole saw, drill through dash.

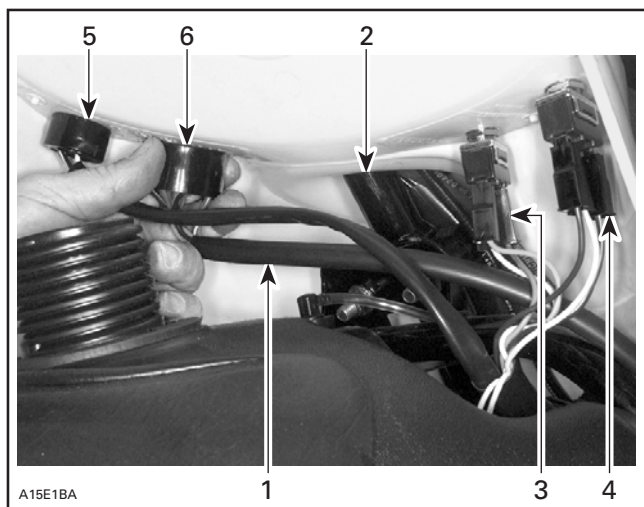
Tighten nut onto ignition switch **no. 21**, slide star lock washer **no. 22** onto switch then insert switch through hole from underneath and secure on top with face nut **no. 23**.



1. Nut
2. Ignition switch
3. Star lock washer
4. Face nut

Install rubber protector **no. 24** on top of switch.

Connect switch harness **no. 37** to ignition switch then, lift dash and route switch harness behind steering column but in front of heated thumb/handle connectors, leading toward multi-connector.

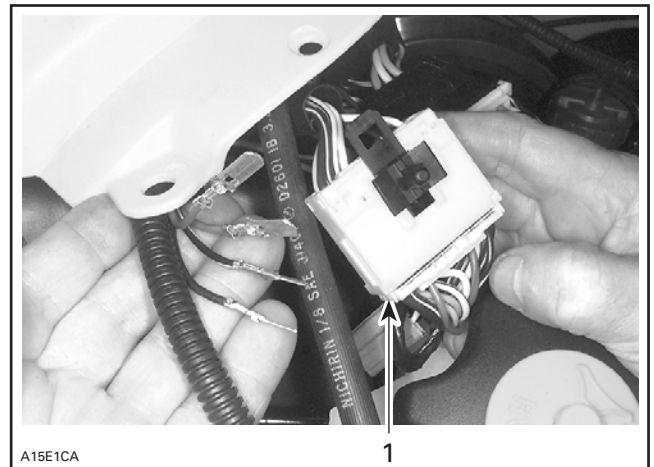


1. Fusible wiring harness
2. Steering column
3. Heated handle connector
4. Heated thumb connector
5. DESS connector
6. Ignition switch connector

Open white multi-connector and insert terminals in proper holes as follows:

- BLACK wire in hole no. 15
- BLACK/YELLOW wire in hole no. 14
- RED/BLUE wire in hole no. 13
- RED/WHITE wire in hole no. 12
- RED/GREEN wire in hole no. 11.

Close multi-connector.



1. Use this multi-connector

Ring Gear

Remove drive pulley. Refer to appropriate *Shop Manual* to perform drive pulley disassembly/assembly procedures and to proceed with pulley alignment.

Secure ring gear **no. 12** on inner half using self-tapping screws **no. 13**. Apply Loctite 271 (red) on screw threads.

CAUTION: Loctite 271 (red) must be applied to safely assemble ring gear.

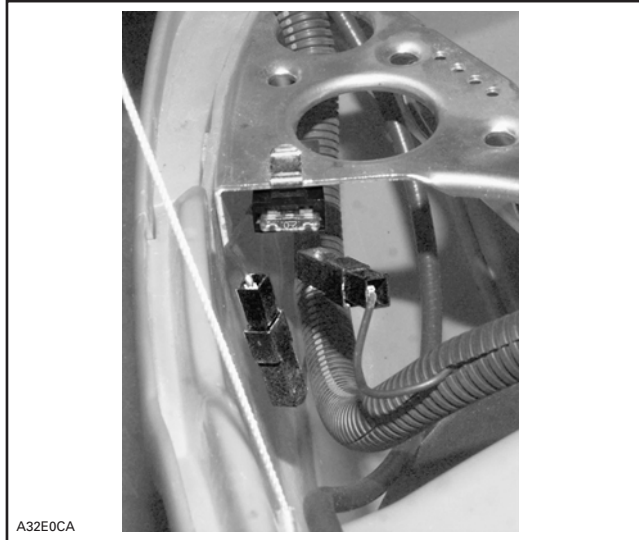
Torque screws in a criss-cross sequence to 27 N•m (20 lbf•ft).

Do not reinstall drive pulley at this time.

Protection Fuse

Disconnect connector on hood electrical harness. See photo below.

Clip fuse-ground harness **no. 35** (with fuse) on frame. Connect fuse-ground harness wires to connector housings.



INSTALLATION COMPLETED

Protector Installation

Align protector **no. 38** with leftmost hole on frame front wall and use protector as a template to drill second hole. See photo page 6.

Using a 10 mm (25/64 in) bit, drill second hole.

From outside, slide insert **no. 39** in holes.

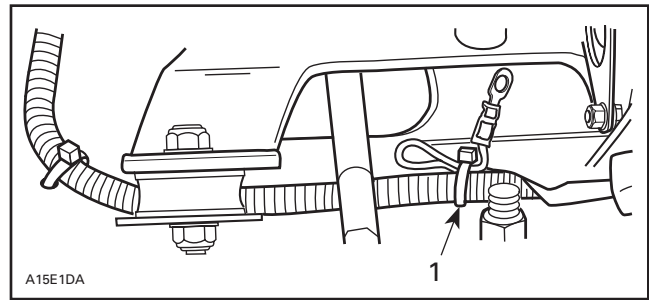
Squeeze it tight on frame by tightening a screw **no. 40** on the outside and retaining the insert with a pair of pliers on the inside.

Once insert squeezed, remove screw **no. 40**.

Electric Starter

CAUTION: For a safe installation of starter and its components, it is necessary to tighten all M8 bolts to 29 N•m (21 lbf•ft) and all M6 bolts to 11 N•m (97 lbf•in).

From main harness underneath engine cut locking tie and pull out RED wire with the eyelet terminal toward the starter position.



1. Locking tie

Install starter support PTO side **no. 2** to engine using hexagonal screws (with Scotch Grip) **no. 3** and flat washers with Teflon **no. 4**. Tighten firmly.

Install starter support MAG side **no. 7** to starter after inserting carriage bolt **no. 11**, and secure with hexagonal screws **no. 8** and flat washers **no. 9**. Do not tighten.

Install electric starter **no. 6** on PTO side support, bottom bolts first and secure it using M8 x 20 hexagonal screws (with Scotch Grip) **no. 5** and flat washers with Teflon M8 **no. 4**. Do not tighten.

Secure MAG side support to engine with M8 x 20 hexagonal screw (with Scotch Grip) **no. 3**, and flat washer with Teflon **no. 4**.

Tighten both PTO side support screws to starter.

Tighten MAG side support screw to engine.

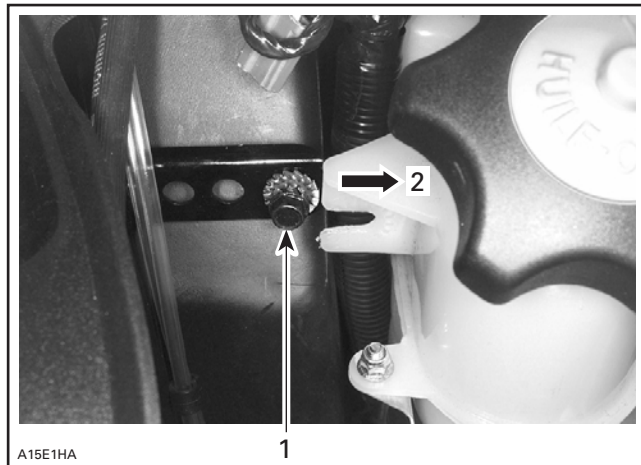
Tighten MAG support screws to starter.

Wire/Cable Connections and Routing

Starting from starter location, route RED cable **no. 17** and tubing **no. 34** toward battery location along cooling hose and between fuel tank and oil tank. The biggest hole of the RED positive cable connects to the starter.

Secure tubing with RED wire on cooling hose with locking ties **no. 33** every 150 mm (6 in) more or less.

To ease cable routing, undo coolant reservoir retaining screw just enough to push reservoir forward a bit.

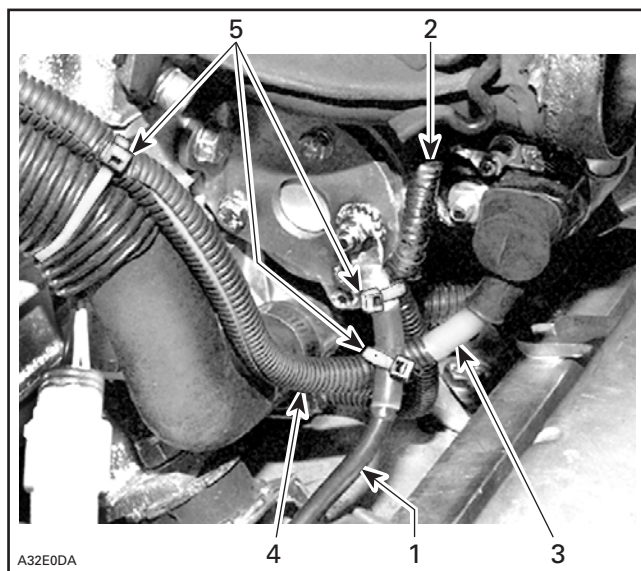


1. Loosen this bolt
2. Move a bit forward

Slide a protector cap **no. 18** (starter end of cable) and another protector cap **no. 18** (battery end of cable) on RED positive battery cable **no. 17**. Install cable, flat washer M8 **no. 42**, lock washer M8 **no. 10** and nut M8 **no. 19** to starter solenoid. Cover terminal with previously installed protector cap.

Connect and secure RED wire with eyelet terminal, previously pulled from main harness, to starter solenoid.

Connect the other side of BLACK negative cable **no. 14** coming from rectifier to starter bracket carriage bolt using star washer **no. 15** between bracket and terminal; secure with elastic nut **no. 16**.



1. BLACK negative cable connected to starter support MAG side
2. RED wire with eyelet terminal connected to solenoid
3. RED positive cable connected to solenoid
4. Tubing **no. 34**
5. Locking ties

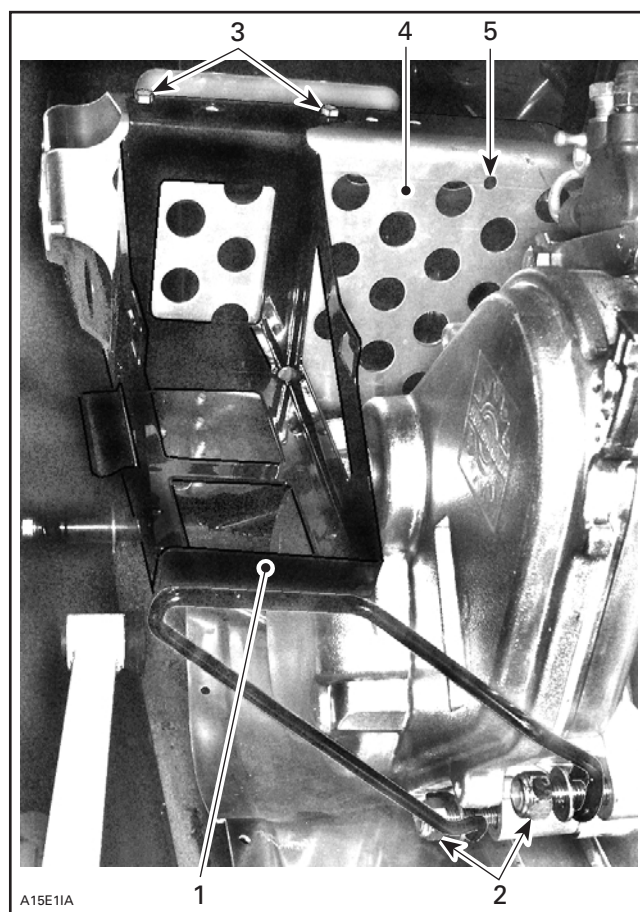
⚠ WARNING

Ensure all terminals are properly crimped on wires/cables and that all connector housings are properly fastened. Keep wires away from any rotating, moving, heating, vibrating and sharp edge parts. Use proper fastening devices as required.

Battery and Rack

Remove 2 lower nuts retaining chaincase cover.

Install battery rack **no. 25** as shown and secure with 2 screws **no. 29** and 2 elastic nuts **no. 30** on top of right front foot rest and reinstall new chaincase cover nuts **no. 31**.



1. Battery rack
2. Change these 2 nuts
3. Secure with 2 screws **no. 29** and 2 nuts **no. 30**
4. Footrest
5. Ground hole

Battery Testing and Activation

Check charge condition using a multimeter.

With a multimeter, voltage readings appear instantly to show the state of charge. Always respect polarity. A fully charged battery will have a reading of 12.6 Vdc.

WARNING

Never charge or boost battery while installed on vehicle.

If not charged, connect a 10 A battery charger for few hours.

WARNING

Gases given off by a battery being charged are highly explosive. Always charge in a well ventilated area. Keep battery away from cigarettes or open flames. Always turn battery charger off prior to disconnecting cables. Otherwise a spark will occur and battery might explode.

NOTE: It is recommended to verify the battery charge once a month. If necessary, fully charge.

Install battery **no. 27** in rack, posts on engine side, with deflector **no. 26**.

Cut locking ties from console strand and set fuse wire RED/YELLOW into fuse holder **no. 20**.

Secure BLACK ground cable to footrest hole with bolt M6 **no. 36**, washer M6 **no. 15** and nut M6 **no. 16**.

Connect RED positive battery cable and RED wire with fuse (from ignition switch harness) to battery then connect BLACK ground cable. Coat battery posts and connectors with silicone dielectric grease (P/N 413 701 700).

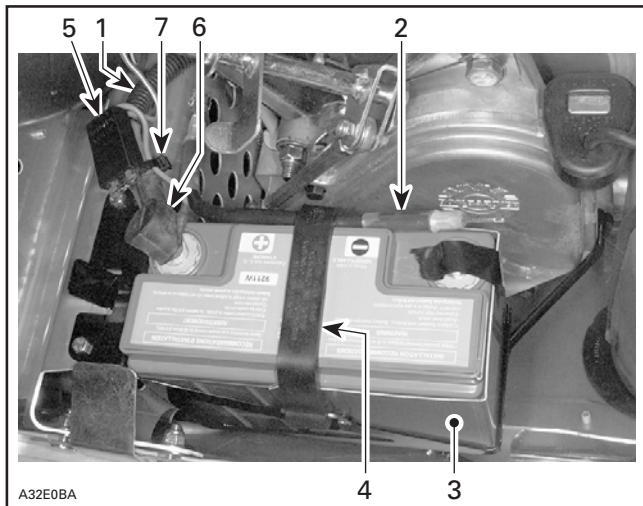
WARNING

Always connect the battery cables exactly in the specified order. Connect RED positive cable first, then BLACK negative ground cable.

Secure battery in place with strap **no. 28**. Secure also BLACK negative cable in strap, engine side.

Hook up fuse holder to retaining RED battery cable using locking tie **no. 33**.

Fasten battery cables using a locking tie **no. 33**.

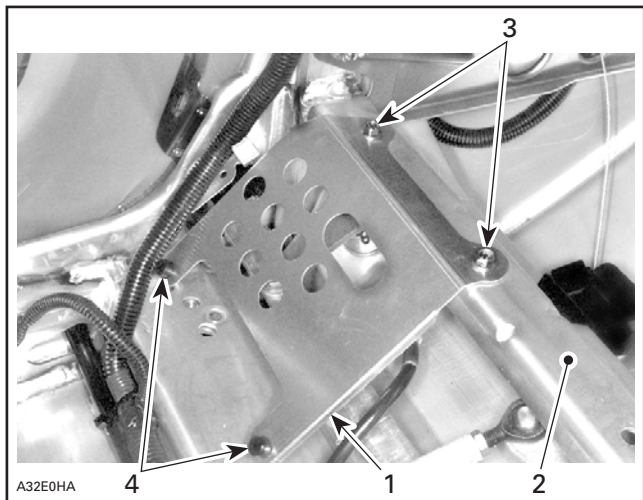


1. RED positive cable
2. BLACK negative cable
3. Deflector
4. Battery strap
5. Fuse holder
6. Protector cap
7. Locking tie

Install black rubber plugs **no. 41** on protector.

Position protector **no. 38** in place.

Secure with screws **no. 40**.



ENGINE REMOVED

1. Protector
2. Snowmobile frame
3. Hexagonal screws
4. Rubber plugs

Finalizing Assembly

Refer to the appropriate *Ski-Doo Shop Manual* for proper reinstallation procedure.

Reinstall drive pulley.

Check pulley alignment.

WARNING

Drive pulley alignment must always be checked whenever pulleys have been removed, replaced or disassembled.

Reinstall remaining removed parts not forgetting to secure coolant reservoir retaining screw.

NOTE: Apply Dow Corning sealer no. 736 RTV on exhaust manifold ball joint.

Test electrical starting and ignition cut-out systems as per normal starting procedure for electric starter models.

Decal

Clean decal region with soapy water or isopropyl alcohol using a soft clean cloth and dry thoroughly.

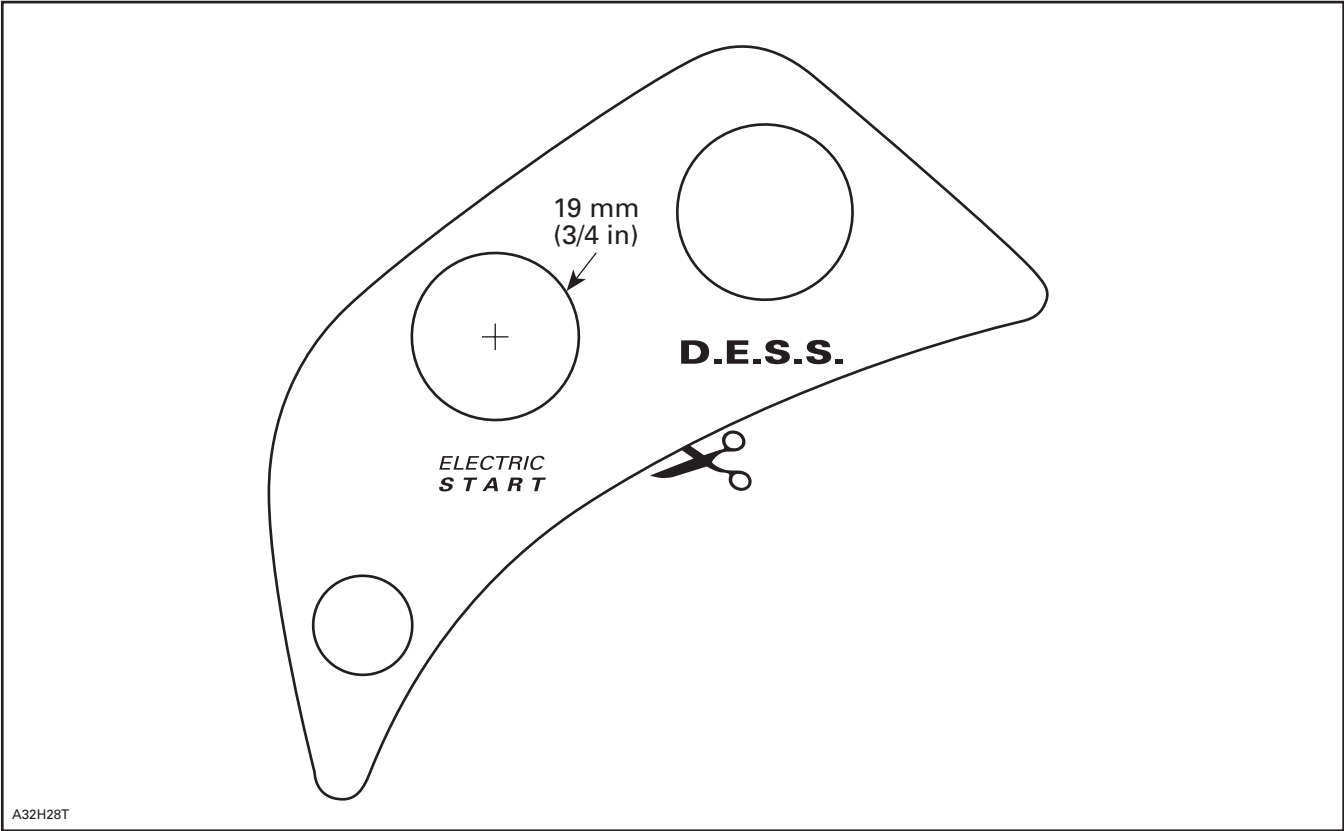
CAUTION: Do not apply isopropyl alcohol on decal.

Remove backing from decal.

Apply decal **no. 32** on left side of hood.

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TEMPLATE



861 506 300

1.	515 175 217	Voltage Regulator	Régulateur de tension
2.	515 175 142	Starter Support PTO Side	Support de démarreur, côté PDM
3.	207 582 044	Flanged Hexagonal Screw M8 x 20 (with Scotch Grip) (3)	Vis hexagonale à épaulement M8 x 20 (avec Scotch Grip) (3)
4.	250 200 008	Flat Washer M8 with Teflon (5)	Rondelle plate M8 avec Teflon (5)
5.	207 582 044	Flanged Hexagonal Screw M8 x 20 (with Scotch Grip) (2)	Vis hexagonale à épaulement M8 x 20 (avec Scotch Grip) (2)
6.	515 175 565	Starter	Démarreur
7.	515 175 441	Starter Support MAG Side	Support de démarreur, côté MAG
8.	207 361 644	Hexagonal Screw (with Scotch Grip) (3)	Vis hexagonale (avec Scotch Grip) (3)
9.	234 061 410	Flat Washer M6 (3)	Rondelle plate M6 (3)
10.	234 181 401	Lock Washer M8	Rondelle-frein M8
11.	207 762 044	Carriage Bolt M6 x 20	Boulon de carrosserie M6 x 20
12.	417 300 057	Ring Gear	Couronne de lancement
13.	236 281 684	Self-Tapping Screw M8 x 16 (6)	Vis autotaraudeuse M8 x 16 (6)
14.	515 175 483	BLACK Negative Ground Cable (2)	Câble de masse négatif NOIR (2)
15.	250 200 000	Star Washer M6 (3)	Rondelle en étoile M6 (3)
16.	233 261 414	Elastic Flanged Nut M6	Écrou élastique à épaulement M6
17.	515 175 482	RED Positive Battery Cable	Câble positif de batterie ROUGE
18.	570 151 000	Protector Cap (2)	Capuchon de protection (2)
19.	232 081 414	Hexagonal Nut M8	Écrou hexagonal M8
20.	515 175 489	Fusible Wiring Harness	Faisceau de fils de fusible
21.	410 111 300	Switch	Interrupteur
22.	394 103 300	Star Lock Washer	Rondelle-frein en étoile
23.	410 112 100	Face Nut	Écrou
24.	570 013 700	Switch Protector	Cache d'interrupteur
25.	515 175 472	Battery Rack	Support de batterie
26.	515 175 363	Deflector	Déflexeur
27.	515 175 481	Battery	Batterie
28.	515 175 475	Battery Strap	Courroie de batterie
29.	207 151 644	Hexagonal Screw M5 x 16 (2)	Vis hexagonale M5 x 16 (2)
30.	233 251 414	Elastic Stop Nut M5 (2)	Écrou d'arrêt élastique M5 (2)
31.	233 201 414	Flanged Elastic Stop Nut M10 (2)	Écrou d'arrêt élastique à épaulement M10 (2)
32.	418 001 300	Decal	Autocollant
33.	414 115 200	Locking Tie (8)	Attache (8)

861 506 300

34.	409 901 700	Tubing (3 ft)	Tube (3 pi)
35.	515 175 490	Fuse-Ground Harness	Faisceau de fils fusible/masse
36.	207 161 644	Hexagonal Screw M6 x 16	Vis hexagonale M6 x 16
37.	515 175 541	Switch Harness	Faisceau de fils de l'interrupteur
38.	515 175 536	Protector	Protecteur
39.	415 107 300	Insert (2)	Pièce d'ancrage (2)
40.	207 661 644	Hexagonal Flanged Screw M6 x 16 (2)	Vis à épaulement hexagonale M6 x 16 (2)
41.	293 830 005	Black Rubber Plug (2)	Bouchon de caoutchouc noir (2)
42.	234 081 410	Flat Washer M8	Rondelle plate M8



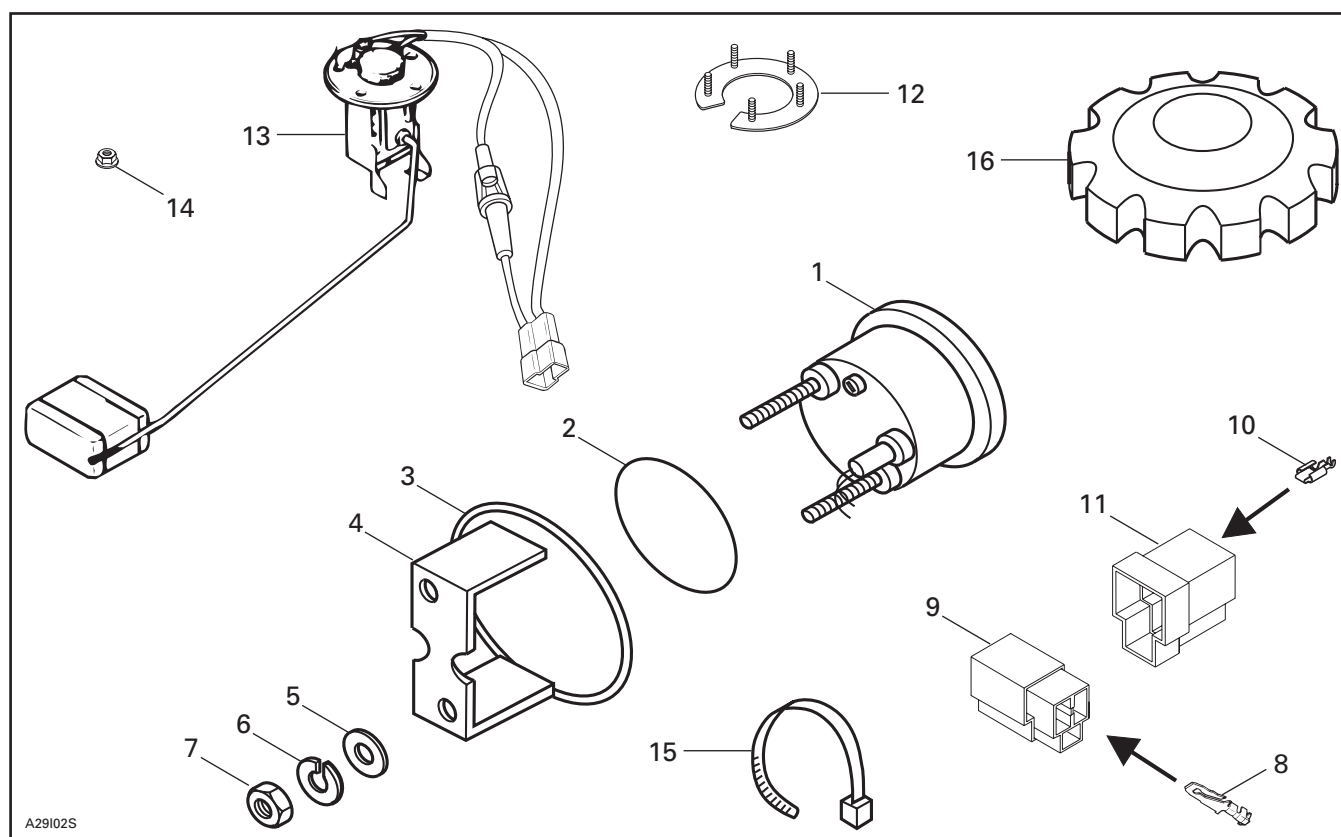
**FUEL GAUGE KIT
(P/N 861 506 400)**

⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. This instruction sheet should be given to the purchaser. This kit is designed for specific applicable models only. It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 1.0 hour.

PARTS TO BE INSTALLED



- 1. Fuel Gauge
- 2. Gauge O-Ring
- 3. Formed Washer
- 4. Gauge Holder
- 5. Flat Washer 7/32 (2)
- 6. Lock Washer (2)
- 7. Nut (2)
- 8. Male Connector (3)

- 9. 3-Connector Housing
- 10. Female Connector (3)
- 11. 3-Connector Housing
- 12. Float Support
- 13. Fuel Sensor
- 14. Elastic Flanged Nut M4 (5)
- 15. Locking Tie
- 16. Fuel Tank Cap

INSTRUCTIONS

Fuel Sensor Installation

Disconnect battery (if equipped).

WARNING

Always disconnect battery cables exactly in the specified order, BLACK negative cable first. Electrolyte or fuel vapors can be present.

Open seat.

Close fuel shut-off valve (if so equipped).

Drain fuel tank completely.

Position tank template (found on the last pages of this document) onto tank recess. Mark all hole centers.

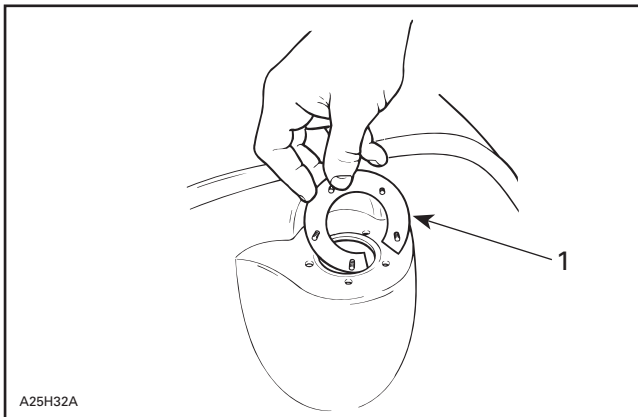
Using a 42 mm (1-21/32 in) hole saw cut tank fuel sensor hole.

NOTE: Put a small dab of grease on drill bit to minimize the quantity of particles from falling into fuel tank.

Using a 4.2 mm (11/64 in) drill bit, drill the 5 fuel sensor retaining screw holes using marks as a center guide.

Thoroughly clean fuel tank.

Install float support **no. 12** (gasket included with fuel sensor) and fuel sensor **no. 13**.



1. Float support

NOTE: Fuel sensor and gasket must be installed outside tank; float support inside tank.

Secure with elastic flanged nuts **no. 14** (M4), initially torque to 1 N•m (8 lbf•in) then finalize torque in criss-cross sequence to 2.5 N•m (22 lbf•in).

Replace fuel tank cap with the one supplied **no. 16**.

Connect fuel sensor harness to vehicle harness. Do not close seat yet.

WARNING

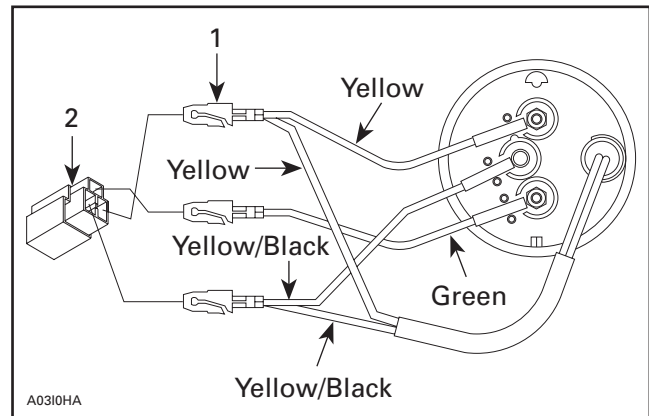
Verify the fuel system, if any leak is found, do not start the engine and wipe off any fuel leakage. Failure to correct a leak could lead to an explosion.

Electric Fuel Gauge Installation

Position dashboard template (found on the last pages of this document) on the center of the right side of dashboard, cut a 63.5 mm (2.5 in) hole.

CAUTION: Make sure not to damage oil tank cap. Be sure there are no wires behind dashboard that might be damaged.

Install male connectors **no. 8** on gauge wires and position in 3-connector housing **no. 9** as per following illustration.



1. Male connector
2. 3-connector housing

Remove existing vehicle 4-connector housing and connectors.

Replace with 3-connector housing **no. 11** and female connectors **no. 10**.

Install electric fuel gauge **no. 1** with gauge O-ring **no. 2**, formed washer **no. 3** and gauge holder **no. 4** with washers **no. 5**, lock washers **no. 6** and nuts **no. 7**.

Connect housings.

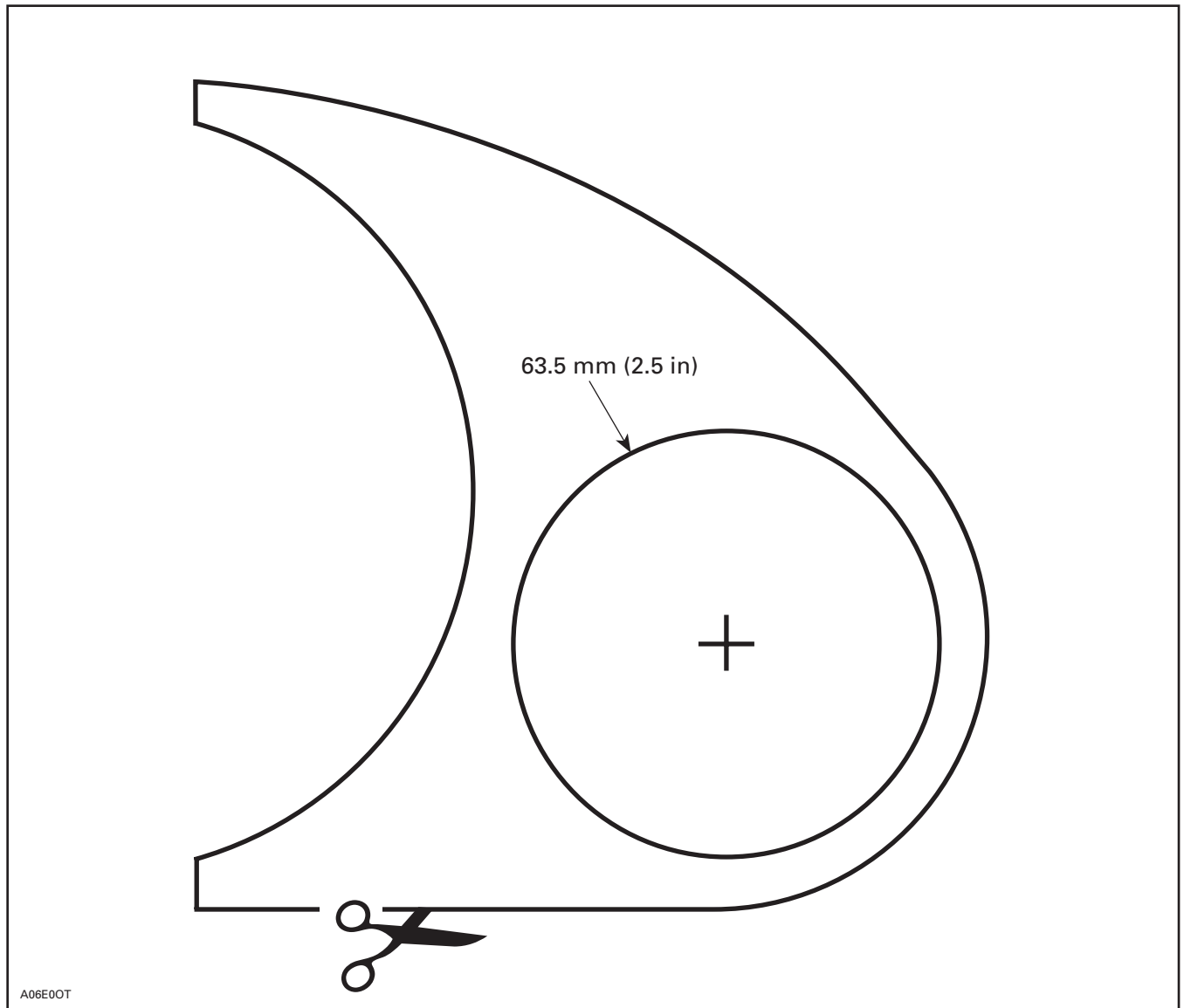
Secure wire harness with a tie rap **no. 15**.

Test gauge operation with fuel tank empty and full. Ensure there is no fuel leak at fuel sensor.

Close seat.

DASHBOARD TEMPLATE

Use this template to position drill hole for gauge in dashboard.

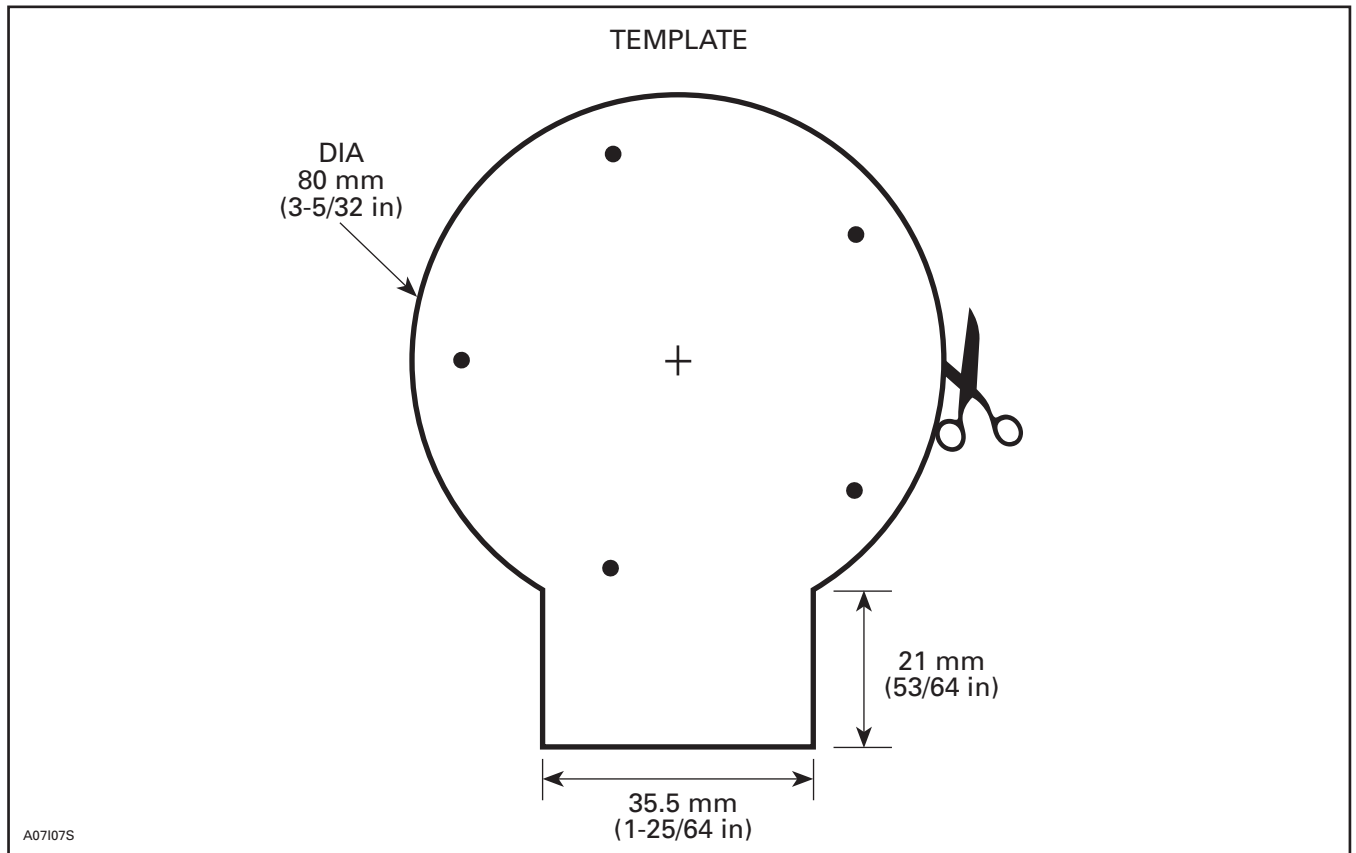


POSITION OVER DASHBOARD DECAL

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TANK TEMPLATE

Use this template to position drill hole for fuel sensor on tank.



POSITION OVER TANK

861 506 400

1.	515 175 343	Fuel Gauge	Indicateur de niveau de carburant
2.	414 807 200	Gauge O-Ring	Joint torique de l'indicateur
3.	517 258 600	Formed Washer	Rondelle formée
4.	414 806 600	Gauge Holder	Support d'indicateur
5.	391 301 700	Flat Washer 7/32 (2)	Rondelle plate 7/32 (2)
6.	414 833 700	Lock Washer (2)	Rondelle-frein (2)
7.	414 833 600	Nut (2)	Écrou (2)
8.	409 210 000	Male Connector (3)	Raccord mâle (3)
9.	409 204 200	3-Connector Housing	Logement de raccords à 3 circuits
10.	515 175 253	Female Connector (3)	Raccord femelle (3)
11.	409 204 300	3-Connector Housing	Logement de raccords à 3 circuits
12.	513 032 500	Float Support	Support de flotteur
13.	410 112 300	Fuel Sensor	Sonde de niveau de carburant
14.	233 241 414	Elastic Flanged Nut M4 (5)	Écrou à épaulement élastique M4 (5)
15.	414 115 200	Locking Tie	Attache
16.	572 039 600	Fuel Tank Cap	Bouchon du réservoir de carburant



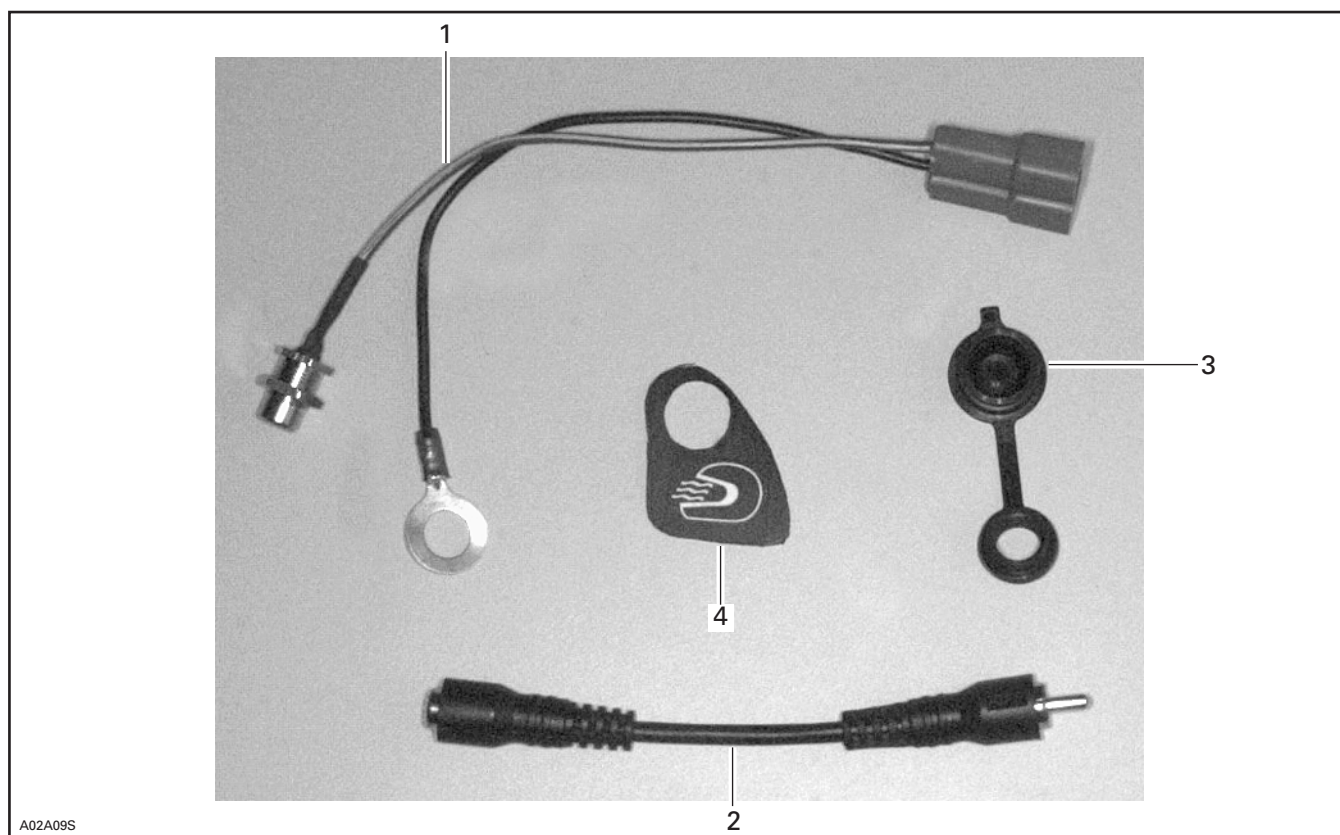
**HEATED VISOR CONNECTOR
(P/N 861 506 600)**

⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. This instruction sheet should be given to the purchaser. This kit is designed for specific applicable models only. It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 0.5 hour.

PARTS TO BE INSTALLED



- | | |
|---------------------------|----------------------------------|
| 1. Wiring Harness | 4. Decal |
| 2. Visor Outlet Extension | 5. Locking Tie (not illustrated) |
| 3. Protector Cap | |

INSTRUCTION

All Models

Remove air box.

Remove steering pad.

Remove center console retaining screws.

S-Series Models

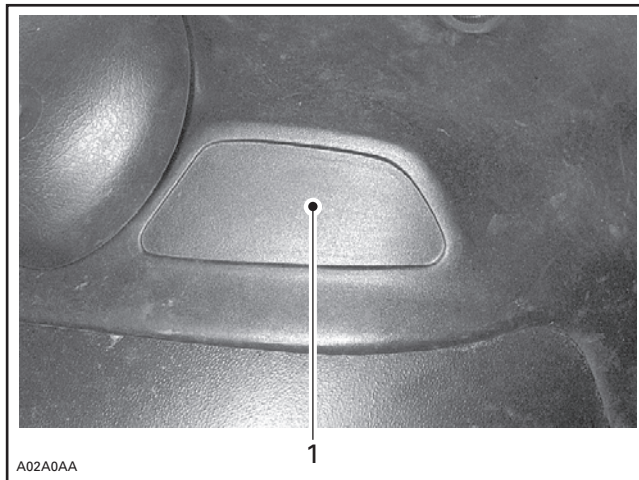
Temporarily position decal **no. 4** on right side, symmetrical to tether cord adapter, using it as a template to locate hole positioning.

Drill hole using a 12 mm (15/32 in) bit, taking care not to damage wires underneath.

Install decal **no. 4** at its position.

CK3 Models

Hole can be drilled anywhere in the right side molded space. Refer to following photo.

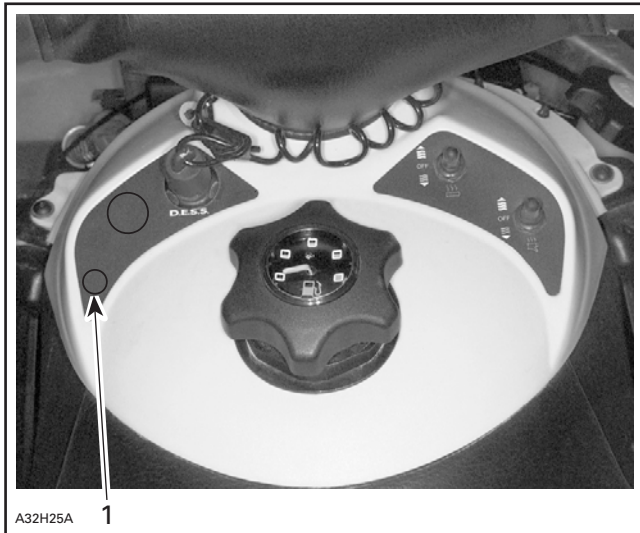


1. Anywhere within this space

Use decal **no. 4** as a template, drill hole and install decal accordingly.

ZX Models

Using template at the end of this instruction sheet, mark hole location and drill hole at provided place. Refer to following photo.



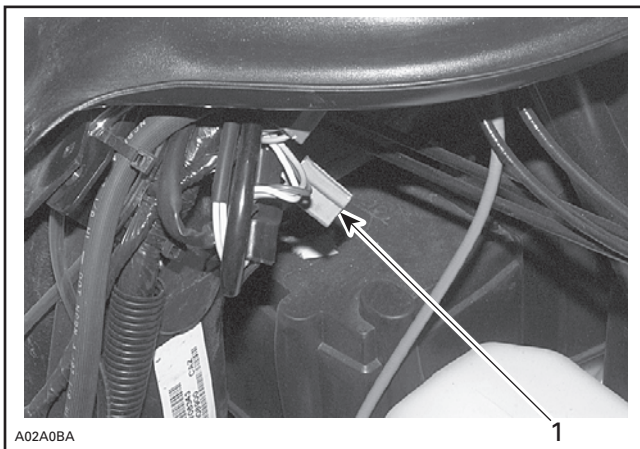
1. Drill here

All Models

Remove and discard hexagonal nut from wiring harness **no. 1**.

Insert ground wire onto wiring harness fitting and, from underneath, insert wiring harness fitting in hole and retain in place, from outside, with protector cap **no. 3**; tighten firmly.

Locate available (if available) female connector in main wiring harness and connect visor harness male connector. Refer to following photo.



1. Use this connector

If female connector is not available in main harness, locate a YELLOW positive wire and a YELLOW/BLACK negative wire to feed visor harness; this will require cutting of harness male terminal and use of crimping terminals (P/N 409 900 400) (not supplied in this kit).

Where required, use locking tie **no. 5** to secure visor harness which is supplied longer in order to fit all models.

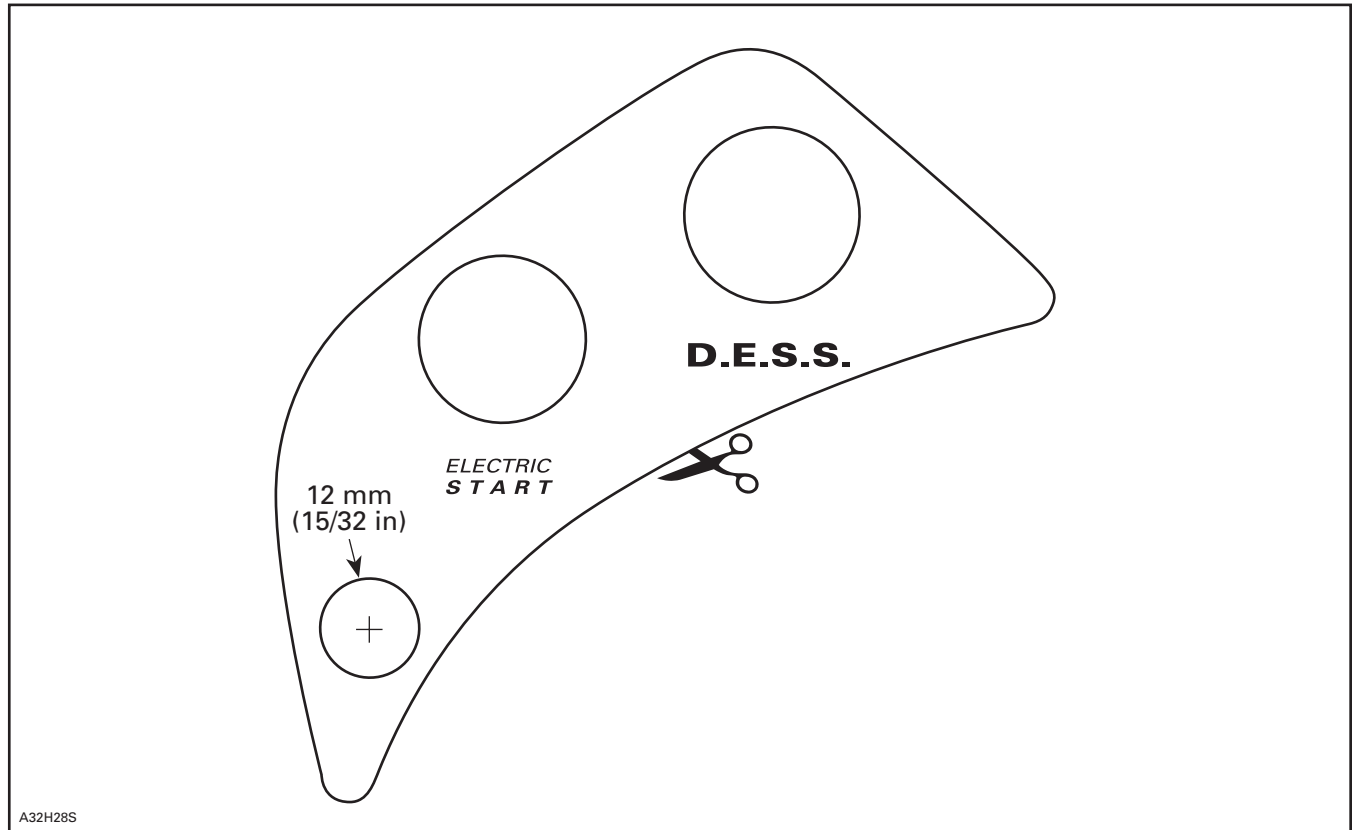
NOTE: By changing outlet angle, visor outlet extension **no. 2** is provided to allow easy emergency disconnecting **when and if** required.

Reinstall center console.

Reinstall steering pad.

Reinstall air box.

TEMPLATE FOR ZX MODELS



861 506 600

1.	515 175 590	Wiring Harness	Faisceau de fils
2.	515 175 161	Visor Outlet Extension	Rallonge de prise de visière
3.	572 103 300	Protector Cap	Capuchon protecteur
4.	516 000 277	Decal	Autocollant
5.	414 115 200	Locking Tie	Attache



**ELECTRIC STARTER KIT
(P/N 861 506 800)**

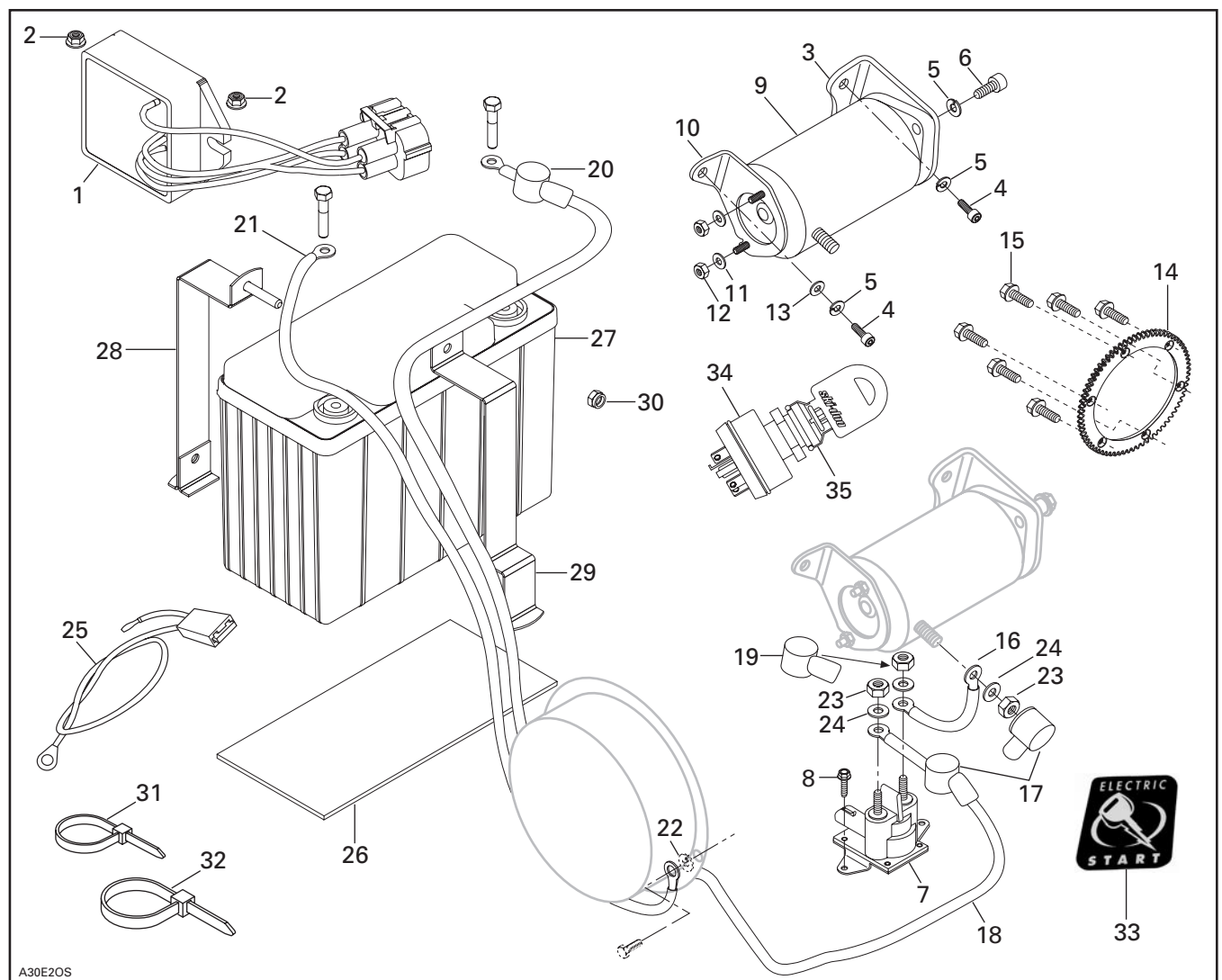
⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. Torque wrench tightening specifications must strictly be adhered to; refer to table at the end of this document. This instruction sheet should be given to the purchaser.

This kit is designed for specific applicable models only (your authorized Ski-Doo snowmobile dealer will confirm models). It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 2.5 hours.

PARTS TO BE INSTALLED



1. Voltage Regulator
 2. Flanged Elastic Nut M6 (2)
 3. Starter Support PTO Side
 4. Socket Screw M8 x 20 (3)
 5. Lock Washer M8 (5)
 6. Socket Screw M8 x 25 (2)
 7. Starter Relay
 8. Self-Tapping Hexagonal Screw (2)
 9. Starter
 10. Starter Support MAG Side
 11. Flat Washer (2)
 12. Flanged Elastic Nut M5 (2)
 13. Flat Washer M8
 14. Ring Gear
 15. Self-Tapping Screw (6)
 16. Battery Positive Cable (short)
 17. Protector Cap (2)
 18. Battery Positive Cable
 19. Protector Cap
 20. Protector Cap
 21. Battery Ground Cable
 22. Star Lock Washer
 23. Elastic Hexagonal Nut (3)
 24. Flat Washer (3)
 25. Fuse Holder
 26. Rubber Strip
 27. Battery
 28. Rear Steel Strip
 29. Front Steel Strip
 30. Flanged Elastic Nut M5
 31. Locking Tie (8)
 32. Locking Tie
 33. Decal
 34. Ignition Switch
 35. Nut
 36. Switch Boot (not illustrated)
-

INSTRUCTIONS

Battery Preparation

Prior to electric starter kit installation, battery must be charged. Refer to *Shop Manual* for proper procedure.

WARNING

Never charge or boost battery while connected or installed on vehicle.

Vehicle Preparation

Close fuel shut off valve.

Remove tuned pipes, muffler, belt guard, drive belt, air intake silencer.

Loosen drive pulley retaining screw for later removal.

Voltage Regulator

Remove original regulator/rectifier, located along RH side member of frame. Keep retaining bolts. Install voltage regulator **no. 1** and secure with M6 flanged elastic nuts **no. 2** using same retaining bolts.

NOTE: Install regulator, with corner where wires come out toward engine.

Connect voltage regulator to vehicle harness.

Starter Relay

Locate relay positioning on metal recess just right of left front engine support. From underneath engine pull out wiring harness enough to cut tie that retains male connector and plug it in female receptacle of relay, leaving both threaded posts of relay toward front. Using already existing holes, secure relay **no. 7** with self-tapping hexagonal screws **no. 8**.

Ring Gear

Remove drive pulley. Refer to appropriate *Shop Manual* to perform drive pulley disassembly/assembly procedures and to proceed with pulley alignment.

Secure ring gear **no. 14** on inner half using self-tapping screws **no. 15**. Apply Loctite 271 (red) on screw threads.

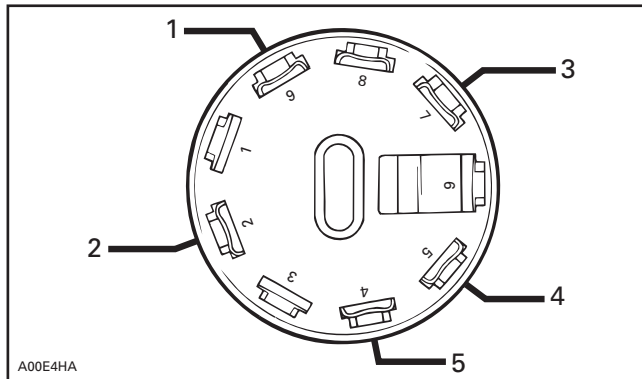
CAUTION: Loctite 271 (red) must be applied to safely assemble ring gear.

Torque screws in a criss-cross sequence to 27 N•m (20 lbf•ft).

Do not reinstall drive pulley at this time.

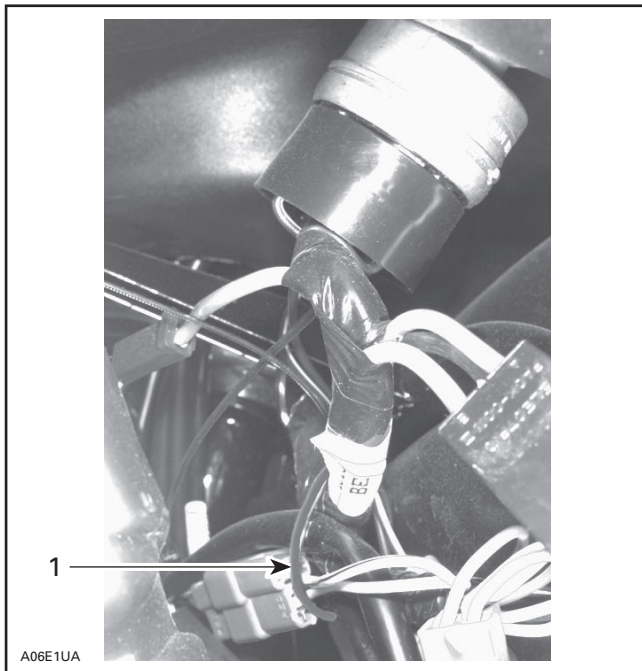
Ignition Switch

Cut locking tie from connector housing of ignition switch. Insert shortest wire of fuse holder **no. 25** inside switch connector housing. Insert connector in position number 7 on switch connector housing. Reposition connector respecting vehicle connector code as illustrated.



1. RED/GREEN wire to relay
2. BLACK/YELLOW
3. RED wire with fuse to battery
4. BLACK
5. RED/BLUE

Plug switch connector housing to ignition switch **no. 34**. Remove and discard little cap at left hand side of the console and insert ignition switch in the hole. Secure ignition switch **no. 34** with nut **no. 35**. Install switch boot protector **no. 36** on top of switch. Secure wires with a locking tie **no. 31** as shown.

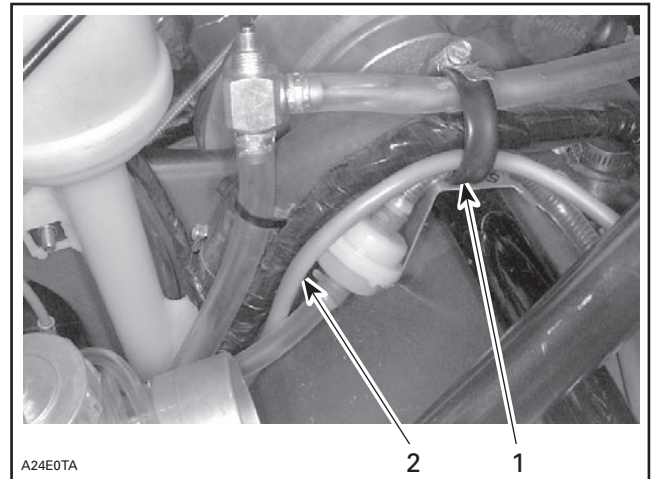


1. Locking tie

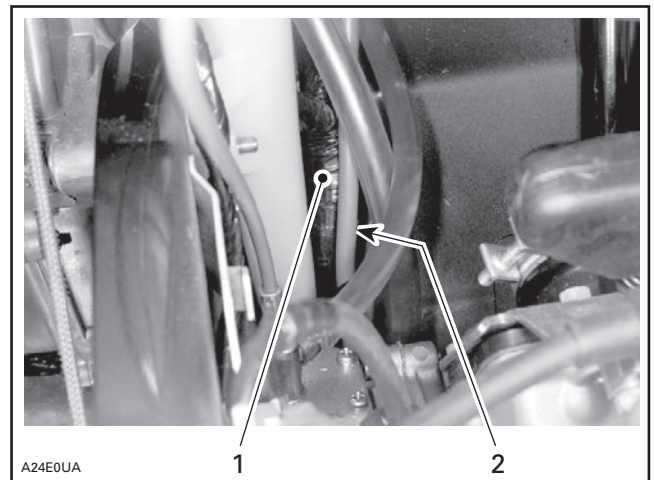
Wire/Cable Connections and Routing

Ensure that all terminals of each battery cable are straight; bend as required.

Starting from battery location, route both cables toward starter location along vehicle harness using existing large clip to start. Refer to following illustrations.



1. Existing large clip
2. Battery positive cable



ALONGSIDE HARNESS

1. Wiring harness
2. Battery positive cable

Make sure cables are pushed secured into corners and that locking ties are used where needed to protect cables from heat or vibration sources and sharp edges.

Install BLACK battery ground cable **no. 21** with star washer **no. 22** to rewind starter housing. Secure with existing rewind starter housing screw and lock washer.

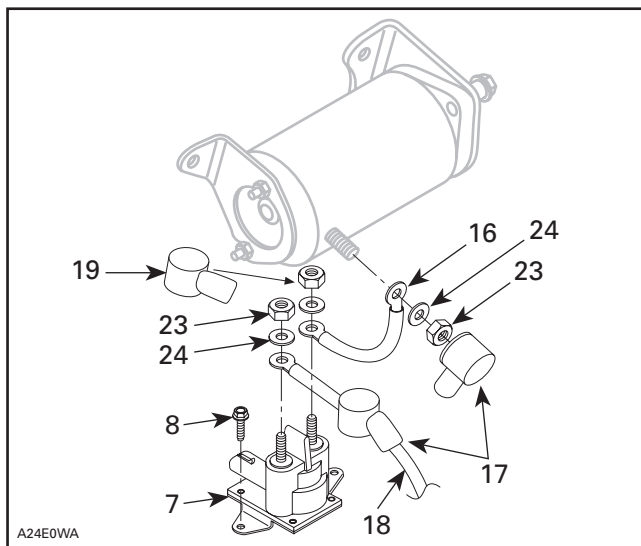
NOTE: Connect BLACK ground cable in specified order: star washer first then BLACK ground cable and original lock washer and tighten with original screw.

Continue RED positive cable routing to starter relay alongside inner frame then left, alongside torsion bar.

Slide protector cap **no. 17** on the RED positive battery cable **no. 18**. Install RED cable, flat washer M8 **no. 24** onto relay inner threaded contact and secure with M8 nut **no. 23**. Cover terminal with protector cap previously inserted.

On one end of short positive cable **no. 16**, insert protector cap **no. 19** and on starter end of same cable insert protector cap **no. 17**. Slide cable terminal onto relay outer threaded contact then flat washer M8 **no. 24** and again secure with M8 nut **no. 23**. Cover contact with protector cap.

Refer to following illustration for relay/starter cable connections.



Using long locking tie **no. 32** secure RED positive cable to torsion bar.

⚠ WARNING

Ensure all terminals are properly crimped on wires/cables and that all connector housings are properly fastened. Keep wires away from any rotating, moving, heating, vibrating parts and sharp edges. Use proper fastening devices as required.

Electric Starter

CAUTION: Apply Loctite 271 (red) on all fastener threads of starter supports.

Through opening on PTO side, start by depositing starter on floor pan.

Install starter support PTO side **no. 3** onto engine using socket screws M8 x 20 **no. 4** and lock washers **no. 5**. Tighten firmly.

Lift up and install electric starter **no. 9** on support, bottom bolts first and secure it using M8 x 25 socket screws **no. 6** and lock washers M8 **no. 5**.

Install flat washers M6 **no. 11** over nuts of starter through bolts.

Install starter support MAG side **no. 10** onto starter and secure with M5 flanged elastic nuts **no. 12**.

Secure support to engine with M8 x 20 socket screw **no. 4**, flat washer **no. 13** and lock washer **no. 5**.

Connect other end of short positive cable from relay onto starter contact, insert flat washer **no. 24** and secure at specified torque with M8 nut **no. 23**. Cover contact with previously inserted protector cap.

Battery

On battery seat, remove and discard clips retaining oil line and small wiring harness.

Install rear battery steel strip **no. 28** in hole provided and let small wiring harness run behind it.

Install rubber strip **no. 26** and battery **no. 27** in their location.

Install front battery steel strip **no. 29**, making sure oil line and RED positive cable pass through indentation at its bottom.

Secure both steel strips with flanged elastic nut **no. 30**.

Insert protector cap **no. 20** on RED positive battery cable and connect same cable with RED fuse holder wire (from ignition switch) to battery and cover post with protector cap. Connect BLACK ground cable.

⚠ WARNING

Always connect battery cables exactly in the specified order. Connect RED positive cable first, then BLACK negative ground cable.

Finalizing Assembly

Refer to the appropriate *Ski-Doo Shop Manual* for proper reinstallation procedure.

Reinstall drive pulley.

Check pulley alignment.

WARNING

Drive pulley alignment must always be checked whenever pulleys have been removed, replaced or disassembled.

Reinstall remaining removed parts.

NOTE: Apply Dow Corning sealer no. 736 RTV on exhaust manifold ball joint.

Test electrical starting and ignition cut-out systems as per normal starting procedure for electric starter models.

Decal

Clean decal area with soapy water or isopropyl alcohol using a soft clean cloth and dry thoroughly.

CAUTION: Do not apply isopropyl alcohol on decal.

Remove backing from decal.

Apply decal **no. 33** below ignition switch on the left side of dash.

The following table is to be consulted if and when a tightening torque is required but not specified.

Bold face size indicates nominal value (mean value).

N•m	FASTENER SIZE (8.8 grade)	Lbf•in
2	M4	18
3	M4	27
4	M5	35
8	M6	71
9	M6	80
10	M6	89
11	M6	97
12	M6	106

N•m	FASTENER SIZE (8.8 grade)	Lbf•ft
21	M8	15
22	M8	16
23	M8	17
24	M8	18
25	M8	18
43	M10	32
44	M10	32
45	M10	33
46	M10	34
47	M10	35
48	M10	35
49	M10	36
50	M10	37
51	M10	38
52	M10	38
53	M10	39
76	M12	56
77	M12	57
78	M12	58
79	M12	58

N•m	FASTENER SIZE (8.8 grade)	Lbf•ft
80	M12	59
81	M12	60
82	M12	60
83	M12	61
84	M12	62
121	M14	89
122	M14	90
123	M14	91
124	M14	91
125	M14	92
126	M14	93
127	M14	94
128	M14	94
129	M14	95
130	M14	96
131	M14	97
132	M14	97
133	M14	98
134	M14	99
135	M14	100
136	M14	100
137	M14	101
138	M14	102
139	M14	103
140	M14	103
141	M14	104
142	M14	105
143	M14	105
144	M14	106
145	M14	107
146	M14	108
147	M14	108
148	M14	109
149	M14	110
150	M14	111

861 506 800

1.	515 175 217	Voltage Regulator	Régulateur de tension
2.	233 261 414	Flanged Elastic Nut M6 (2)	Écrou élastique à épaulement M6 (2)
3.	512 059 209	Starter Support PTO Side	Support de démarreur côté PDM
4.	205 082 044	Socket Screw M8 x 20 (3)	Vis à tête creuse M8 x 20 (3)
5.	234 181 401	Lock Washer M8 (5)	Rondelle-frein M8 (5)
6.	205 082 544	Socket Screw M8 x 25 (2)	Vis à tête creuse M8 x 25 (2)
7.	278 001 766	Starter Relay	Relais de démarreur
8.	210 251 180	Self-Tapping Hexagonal Screw (2)	Vis autotaraudeuse à tête hexagonale (2)
9.	515 175 305	Starter	Démarreur
10.	512 059 208	Starter Support MAG Side	Support de démarreur côté MAG
11.	391 301 700	Flat Washer (2)	Rondelle plate (2)
12.	233 251 414	Flanged Elastic Nut M5 (2)	Écrou élastique à épaulement M5 (2)
13.	234 081 410	Flat Washer M8	Rondelle plate M8
14.	417 009 400	Ring Gear	Couronne de lancement
15.	236 281 684	Self-Tapping Screw (6)	Vis autotaraudeuse (6)
16.	515 175 101	Battery Positive Cable (short)	Câble positif de la batterie (court)
17.	570 064 200	Protector Cap (2)	Capuchon de protection (2)
18.	515 175 153	Battery Positive Cable	Câble positif de la batterie
19.	278 000 020	Protector Cap	Capuchon de protection
20.	570 151 000	Protector Cap	Capuchon de protection
21.	515 175 151	Battery Ground Cable	Câble de masse de la batterie
22.	394 001 900	Star Lock Washer	Rondelle-frein en étoile
23.	232 561 414	Elastic Hexagonal Nut (3)	Écrou élastique hexagonale (3)
24.	234 061 410	Flat Washer (3)	Rondelle plate (3)
25.	515 157 300	Fuse Holder	Porte-fusible
26.	570 070 300	Rubber Strip	Bande de caoutchouc
27.	710 000 283	Battery	Batterie
28.	515 175 114	Rear Steel Strip	Bande d'acier arrière
29.	515 175 116	Front Steel Strip	Bande d'acier avant
30.	233 251 414	Flanged Elastic Nut M5	Écrou élastique à épaulement M5
31.	414 115 200	Locking Tie (8)	Attache (8)
32.	293 750 008	Locking Tie	Attache
33.	418 001 302	Decal	Autocollant
34.	410 113 602	Ignition Switch	Interrupteur d'allumage
35.	410 112 100	Nut	Écrou
36.	570 013 700	Switch Boot	Protecteur d'interrupteur

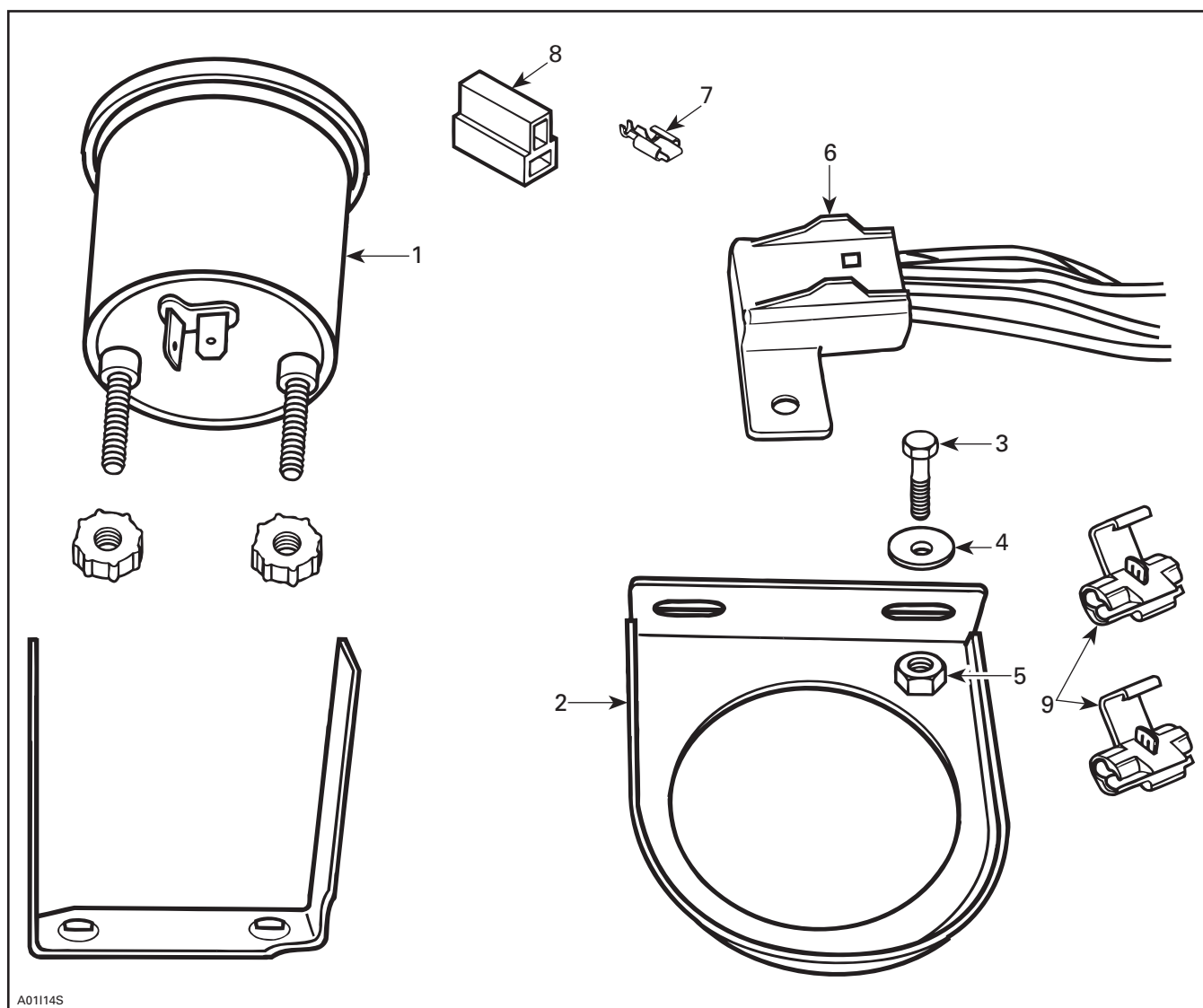


⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. This instruction sheet should be given to the purchaser. This kit is designed for specific applicable models only. It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 0.5 hour.

PARTS TO BE INSTALLED



1. Hour meter
2. Support
3. Screw M5 x 16 (2)
4. Washer M6 (2)
5. Nut M5 (2)

6. Converter
7. Connector (2)
8. 2 Connector Housing
9. Joint Connector (2)

INSTRUCTIONS

CAUTION: If applicable, disconnect the battery as per *Shop Manual*, negative ground cable **FIRST**.

NOTE: It is preferable to install the hour meter in the dashboard if there is enough space.

Dashboard Installation

Using the last page template, cut a 53 mm (2-3/32 in) hole in the dashboard. Install the gauge **no. 1** in the hole and secure with the U-bracket and nuts. You can use the free connectors near the other dashboard gauges power (YELLOW) and ground (YELLOW/BLACK) to plug the hour meter.

ANY OTHER LOCATION

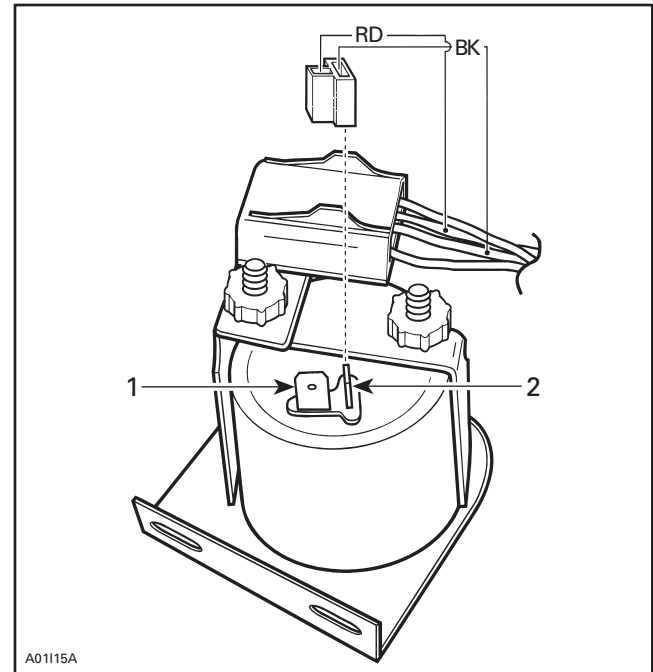
Mount the hour meter **no. 1** in a suitable location using the support **no. 2** included in the kit.

Wiring

Using the joints connectors, connect the converter harness YELLOW wire to any vehicle YELLOW connector, do the same with the converter harness **no. 6** YELLOW/BLACK wire.

Install connectors at the end of the RED and the BLACK converter harness wires.

Insert in the 2 connector housing and connect to the indicator as illustrated.



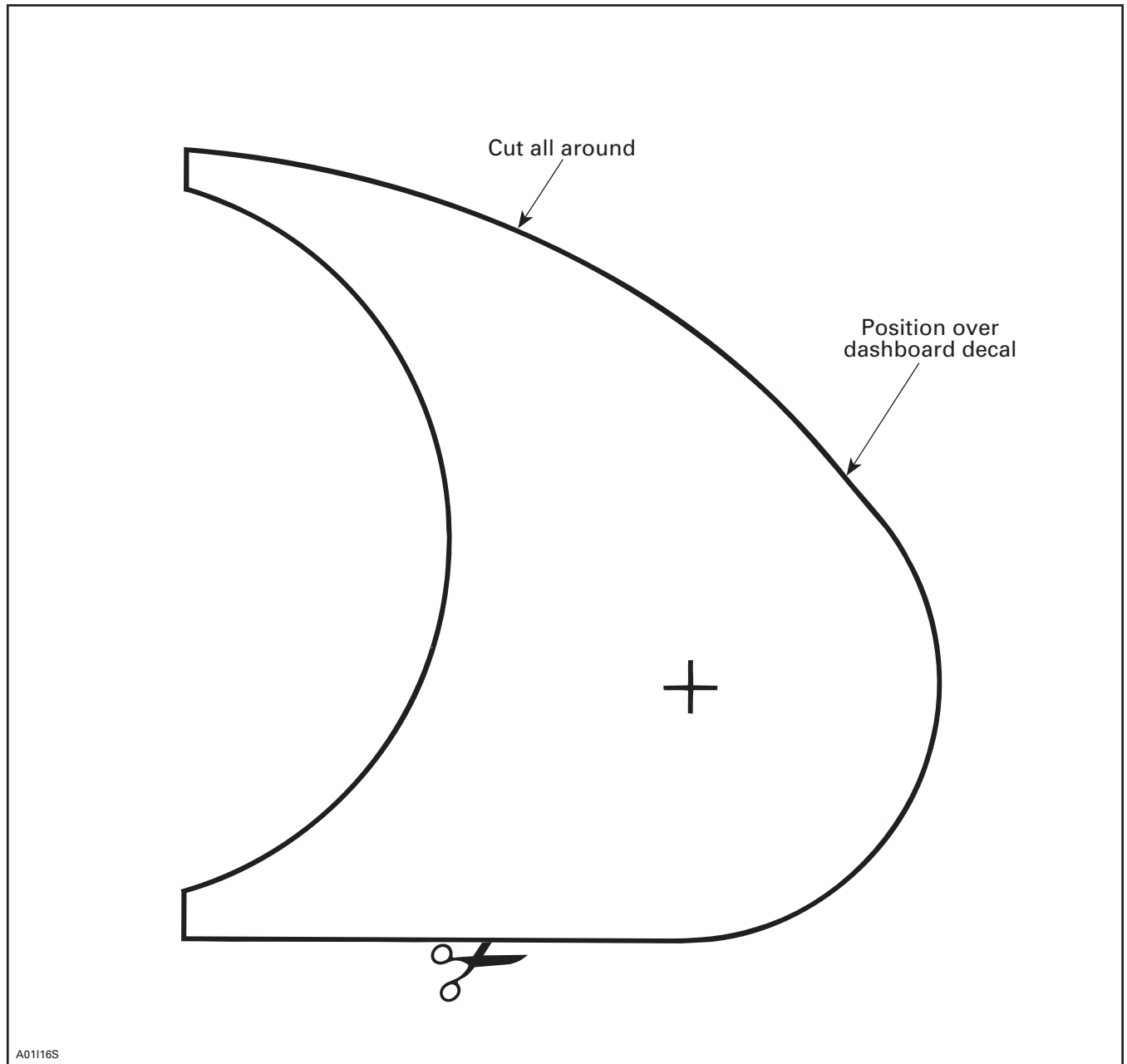
1. RED wire to positive (+)
2. BLACK wire to negative (-)

Enlarge the converter hole to 5 mm (13/64 in). Install the converter on one of the gauge studs. Secure slacked wires with a tie rap.

CAUTION: Route wires away from any rotating, heating, moving or vibrating parts. Use proper fastening devices as required. If applicable, reconnect the battery as per *Shop Manual*, negative ground last.

Start the engine and check hour meter operation.

Use this template to properly drill the dashboard gauge installation hole.



861 748 200

1.	414 989 100	Hour Meter	Totalisateur d'heures
2.	414 989 200	Support	Support
3.	207 151 644	Screw M5 x 16 (2)	Vis M5 x 16 (2)
4.	224 061 121	Washer M6 (2)	Rondelle M6 (2)
5.	233 251 414	Nut M5 (2)	Écrou M5 (2)
6.	410 919 900	Converter	Convertisseur
7.	561 503 100	Connector (2)	Raccord (2)
8.	409 204 600	2 Connector Housing	Logement à 2 raccords
9.	409 900 400	Joint Connector (2)	Cosse de raccordement (2)



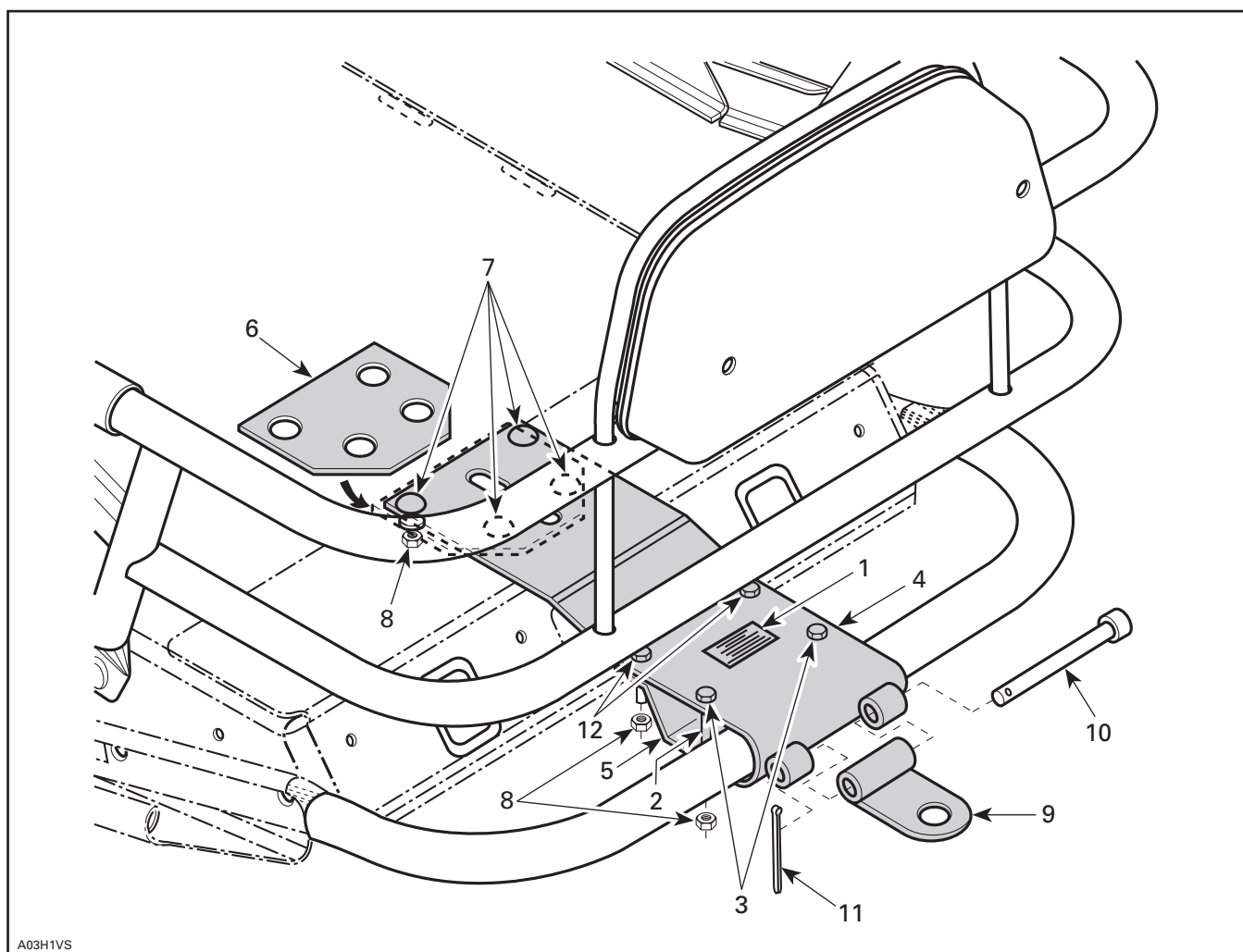
HITCH KIT
(P/N 861 759 300)

⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. This instruction sheet should be given to the purchaser. This kit is designed for specific applicable models only. It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 0.5 hour.

PARTS TO BE INSTALLED



A03H1VS

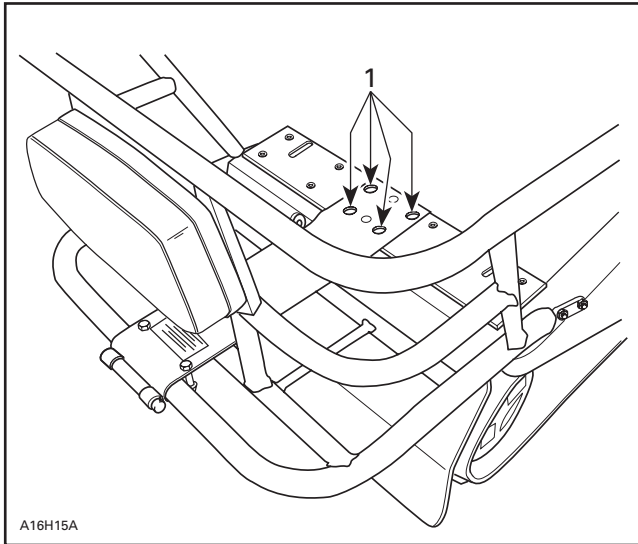
1. Label
2. Spacer (2)
3. Bolt M6 x 50 (2)
4. Support
5. Reinforcement
6. Inner Plate

7. Carriage Bolt M6 x 20 (4)
8. Stop Nut M6 (8)
9. Hitch Plate
10. Clevis Pin
11. Cotter Pin
12. Bolt M6 x 20 (2)

INSTRUCTIONS

Remove seat.

Using the 4 pre-drilled holes in support **no. 4** as guide, drill through tunnel using a 6.5 mm (1/4 in) drill bit. See illustration.



1. Pre-drilled holes

Install inner plate **no. 6**, support **no. 4** and secure with carriage bolts **no. 7** and stop nuts **no. 8**.

Install reinforcement **no. 5**, spacers **no. 2**, and secure with bolts **no. 3**, bolts **no. 12** and stop nuts **no. 8**.

Install hitch plate **no. 9**, clevis pin **no. 10**, and secure with cotter pin **no. 11**.

NOTE: Make sure hitch plate swings freely on hitch bracket.

Affix warning label to hitch.

NOTE: A hook-type hitch kit (P/N 861 722 500) is available for converting the present kit.

861 759 300

1.	414 998 500	Label	Étiquette
2.	517 191 700	Spacer (2)	Entretoise (2)
3.	207 065 044	Bolt M6 x 50 (2)	Boulon M6 x 50 (2)
4.	517 275 500	Support	Support
5.	517 223 500	Reinforcement	Renfort
6.	517 256 100	Inner Plate	Plaque intérieure
7.	207 762 044	Carriage Bolt M6 x 20 (4)	Vis de carrosserie M6 x 20 (4)
8.	233 261 414	Stop Nut M6 (8)	Écrou d'arrêt M6 (8)
9.	517 008 700	Hitch Plate	Plaque d'attelage
10.	505 001 700	Clevis Pin	Axe de chape
11.	371 800 200	Cotter Pin	Goupille fendue
12.	207 162 044	Bolt M6 x 20 (2)	Boulon M6 x 20 (2)



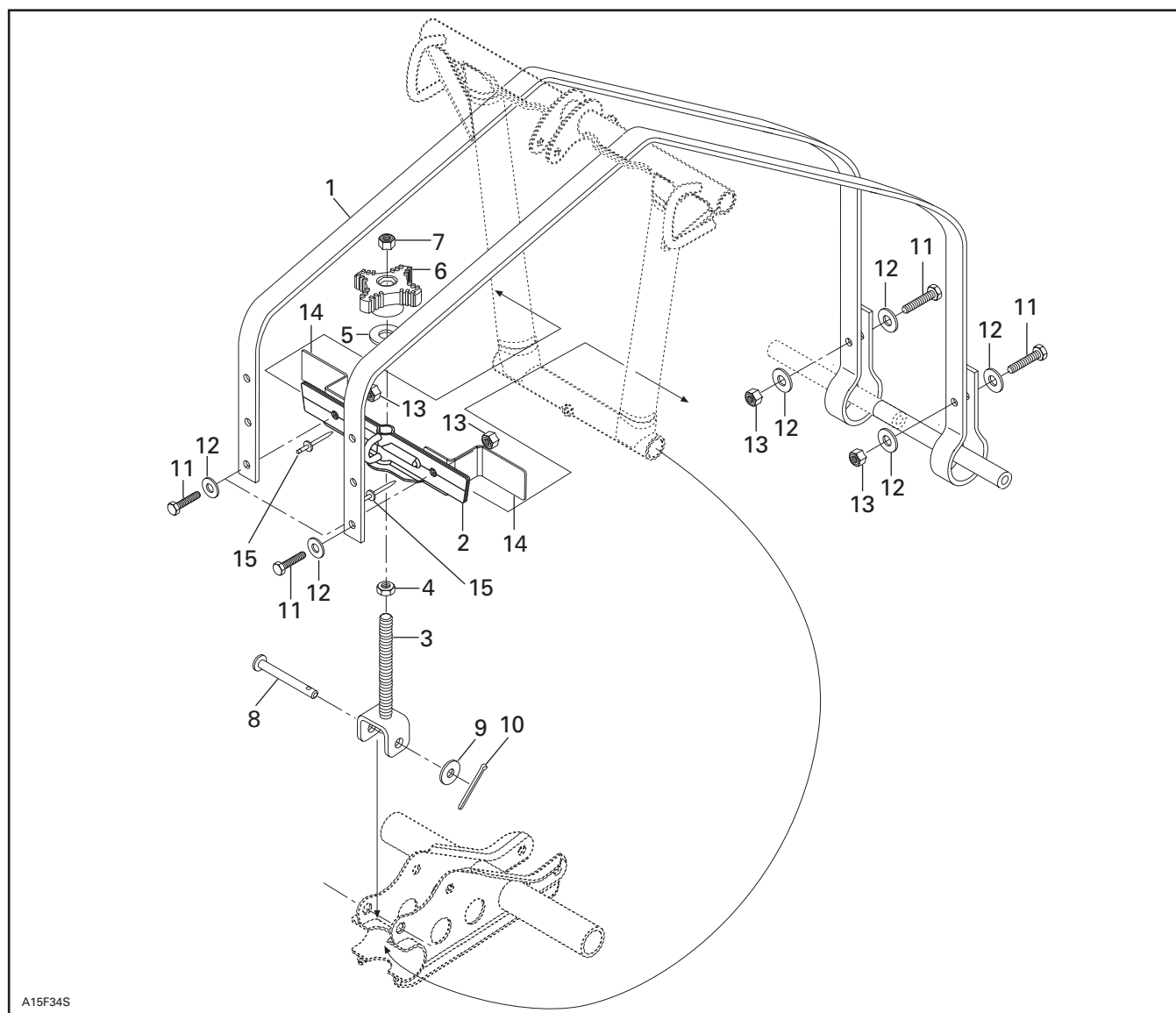
**REAR SUSPENSION
QUICK ADJUSTMENT KIT
(P/N 861 765 500)**

⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. This instruction sheet should be given to the purchaser. This kit is designed for specific applicable models only. It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 1.5 hours.

PARTS TO BE INSTALLED



A15F34S

1. Strap (2)
2. Strap Link
3. Adjustment Screw
4. Nut M10
5. Washer
6. Adjuster Knob
7. Elastic Nut M10
8. Clevis Pin

9. Washer
10. Cotter Pin
11. Screw M8 x 25 (4)
12. Washer (6)
13. Elastic Nut M8 (4)
14. L-Shape Plate (2)
15. Rivet (2)

INSTRUCTIONS

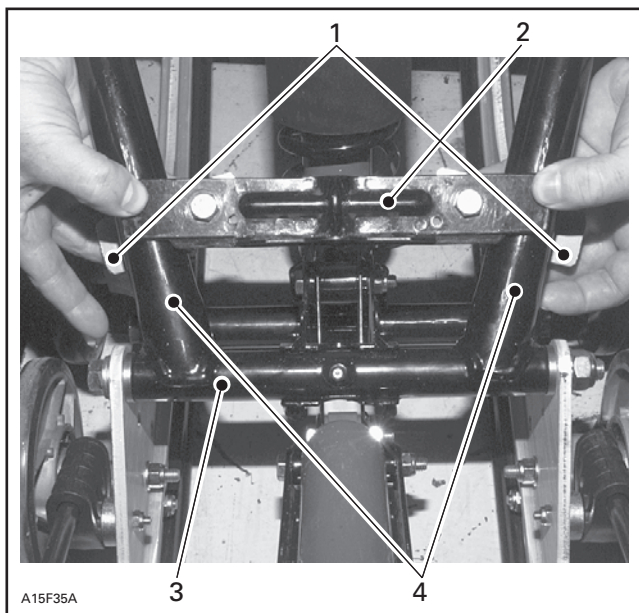
Preparation

Remove rear suspension. Refer to REAR SUSPENSION section of *Shop Manual*.

Temporarily assemble L-shape plates **no. 14** to strap link **no. 2** with screws **no. 11** and elastic nuts **no. 13**. Slightly tighten for now.

Temporarily position strap link assembly parallel to lower axle of front arm suspension then position L-shape plates perpendicular to front arm, as shown on next photo.

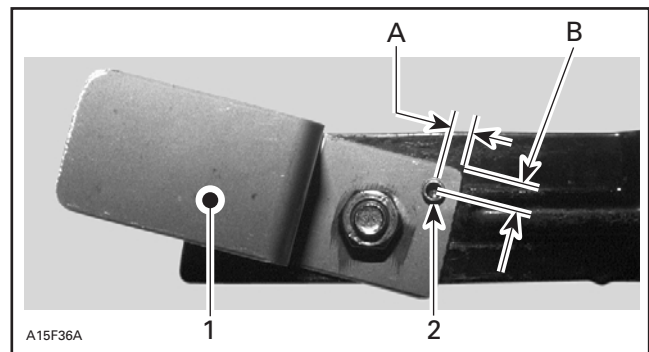
Temporarily tighten to hold plates in place.



1. L-shape plate
2. Strap link
3. Lower axle of front arm
4. Front arm

Slide strap link assembly upward to remove it.

Drill 2 holes with a drill bit 4.75 mm (3/16 in) then secure with rivets **no. 15**, as shown on the following photo.



VIEW FROM UNDER STRAP LINK

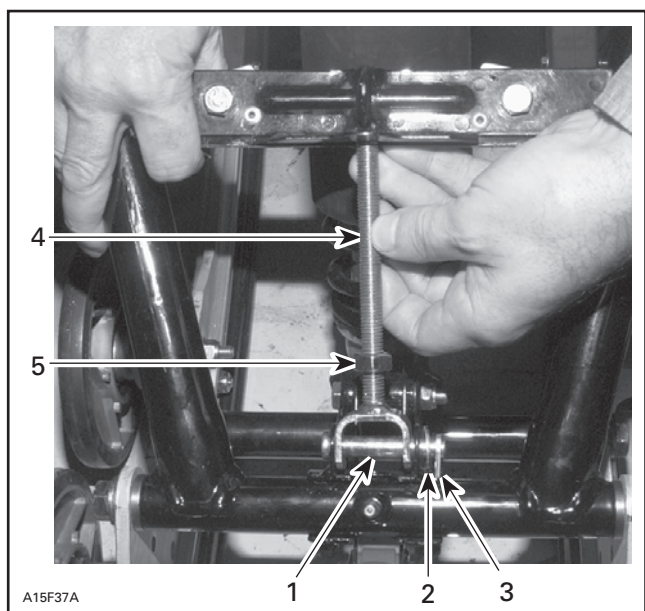
1. L-shape plate
2. Rivet
- A. 6.4 mm (1/4 in)
- B. 6.4 mm (1/4 in)

Installation

Install adjustment screw **no. 3** on suspension with clevis pin **no. 8**, washer **no. 9** and cotter pin **no. 10**. Install nut M10 **no. 4** on adjustment screw.

Insert adjustment screw into strap link assembly then slide down strap link, as shown on next photo.

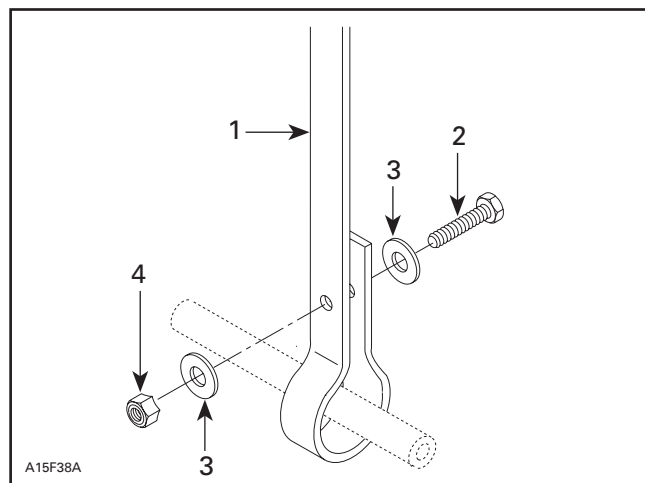
CAUTION: Ensure that strap link assembly is properly positioned. L-shape plate under front arm and strap link over front arm.



1. Clevis pin
2. Washer
3. Cotter pin
4. Adjustment screw
5. Nut M10

Remove existing straps.

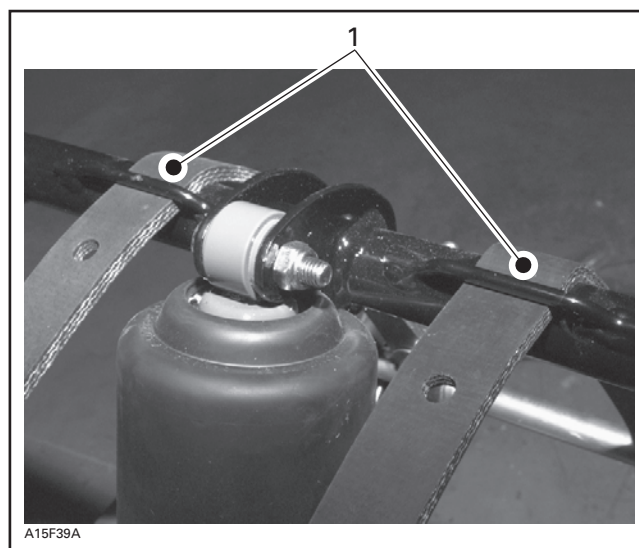
Install new straps **no. 1** with screws **no. 11**, washers **no. 12** and elastic nuts **no. 13**. Refer to the following illustration.



LEFT HAND SIDE SHOWN, IDENTICAL ON RIGHT HAND SIDE

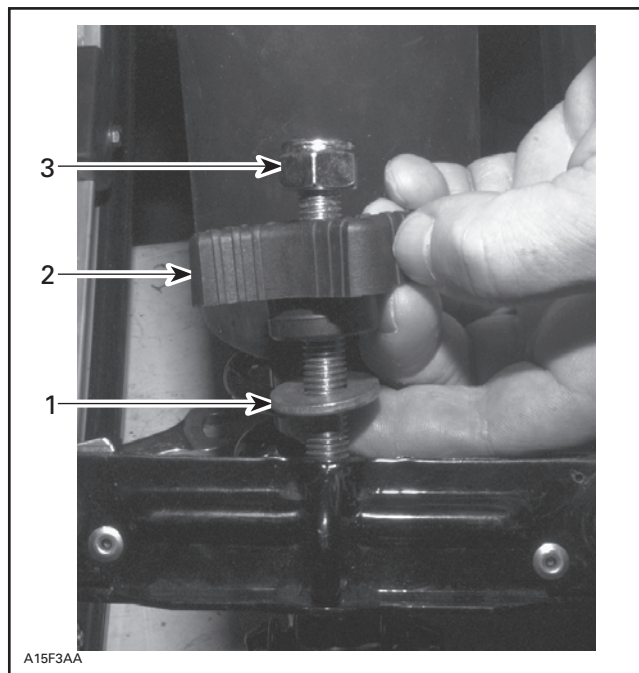
1. Strap
2. Screw
3. Washers
4. Elastic nut

Route straps over and pass them through brackets of front arm upper axle, as shown on the next photo.



1. Straps properly routed into brackets of front arm upper axle

Install washer **no. 5**, adjuster knob **no. 6** and elastic nut **no. 7**, as shown on the next photo.

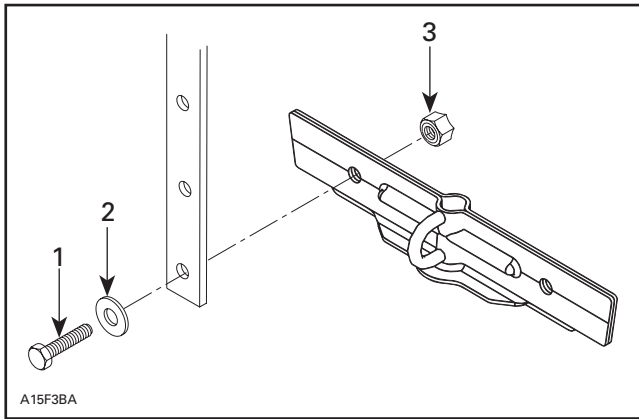


1. Washer
2. Adjuster knob
3. Elastic nut

Remove strap link assembly screws.

Apply pressure on front arm upper axle to compress suspension.

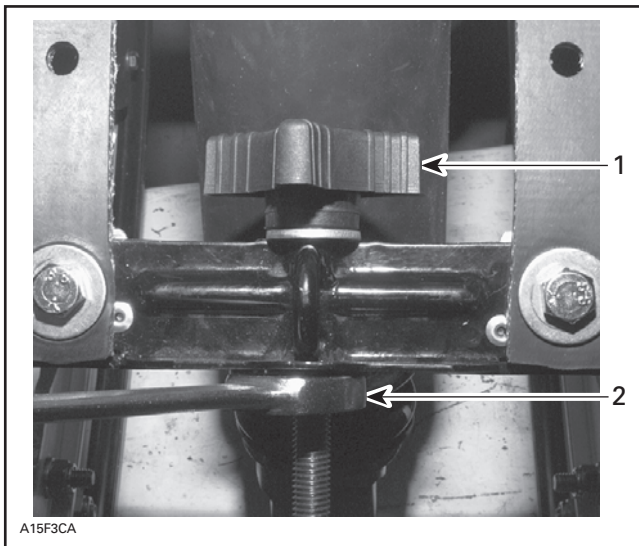
Secure straps to strap link assembly with previously removed screws **no. 11**, washer **no. 12** and elastic nut **no. 13**, as shown on the next illustration.



LEFT HAND SIDE SHOWN, IDENTICAL ON RIGHT HAND SIDE

1. Screw
2. Washer
3. Elastic nut

Adjust suspension with adjuster knob and secure with nut, as shown on the next photo.



1. Adjuster knob
2. Secure with nut

Reinstall rear suspension onto snowmobile.

861 765 500

1.	570 049 700	Strap (2)	Courroie (2)
2.	503 188 400	Strap Link	Tendeur de courroie
3.	503 166 300	Adjustment Screw	Vis de réglage
4.	232 006 414	Nut M10	Écrou M10
5.	224 002 251	Washer	Rondelle
6.	572 034 000	Adjuster Knob	Bouton de réglage
7.	233 601 416	Elastic Nut M10	Écrou élastique M10
8.	414 803 900	Clevis Pin	Axe de chape
9.	234 001 410	Washer	Rondelle
10.	371 801 000	Cotter Pin	Goupille fendue
11.	207 182 544	Screw M8 x 25 (4)	Vis M8 x 25 (4)
12.	234 082 410	Washer (6)	Rondelle (6)
13.	232 581 414	Elastic Nut M8 (4)	Écrou élastique M8 (4)
14.	503 188 500	L-Shape Plate (2)	Plaque en «L» (2)
15.	390 404 300	Rivet (2)	Rivet (2)



**ELECTRIC STARTER KIT
(P/N 861 766 300)**

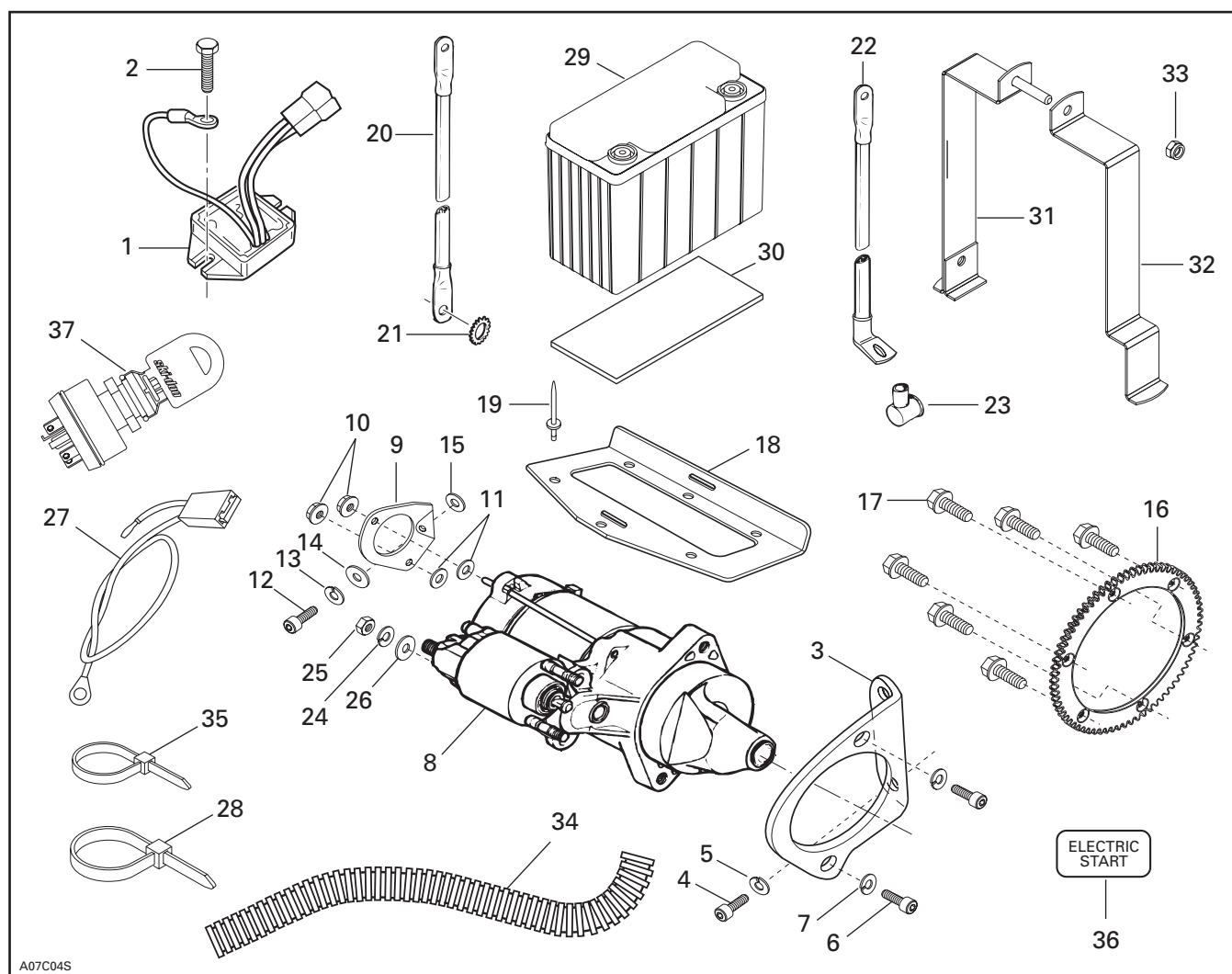
⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. Torque wrench tightening specifications must strictly be adhered to; refer to table at the end of this document. This instruction sheet should be given to the purchaser.

This kit is designed for specific applicable models only (your authorized Ski-Doo snowmobile dealer will confirm models). It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 2.5 hours.

PARTS TO BE INSTALLED



A07C04S

1. Voltage Regulator
2. Hexagonal Self-Tapping Screw M6 x 16 (2)
3. Starter Support PTO
4. Socket Screw M8 x 20 (2)
5. Lock Washer M8 (2)
6. Socket Screw M8 x 25 (2)
7. Lock Washer M8 (2)
8. Starter
9. Starter Support MAG
10. Flanged Elastic Nut M5 (2)
11. Flat Washer (2)
12. Socket Screw M8 x 20
13. Lock Washer M8
14. Flat Washer M8
15. Hardened Washer (2)
16. Ring Gear
17. Hexagonal Self-Tapping Screw M8 x 16 (6)
18. Battery Seat
19. Rivet (6)
20. Battery Ground Cable (BLACK)
21. Lock Washer (star)
22. Battery Positive Cable (RED)
23. Protector Cap (2)
24. Lock Washer M8
25. Hexagonal Nut M8
26. Flat Washer M8
27. Fuse Holder
28. Locking Tie (8)
29. Battery
30. Rubber Strip
31. Welded Steel Strip
32. Steel Strip
33. Flanged Elastic Nut
34. Protector
35. Locking Tie
36. Decal
37. Ignition Switch

VEHICLE PREPARATION

Battery

NOTE: Refer to appropriate *Ski-Doo Shop Manual* for proper battery removal/installation procedure.

Battery must be charged prior to installing this electric starter kit.

WARNING

Never charge or boost battery while connected or installed in vehicle.

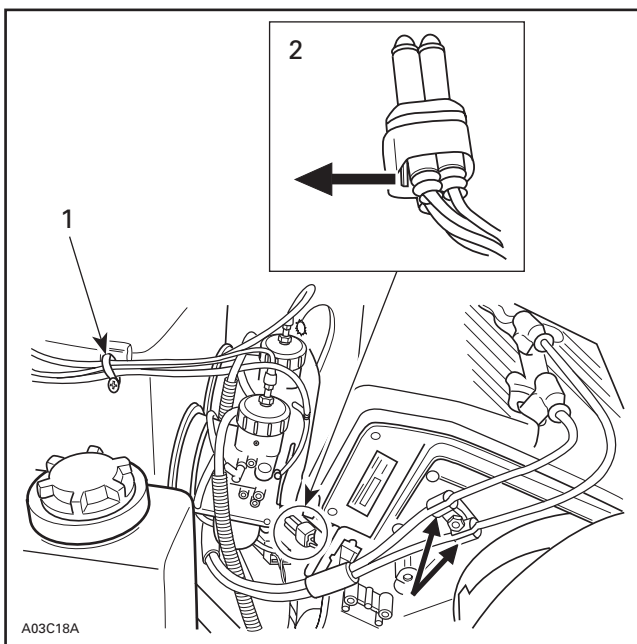
Vehicle

Close fuel shut off valve, if equipped.

Remove exhaust system, belt guard and drive belt.

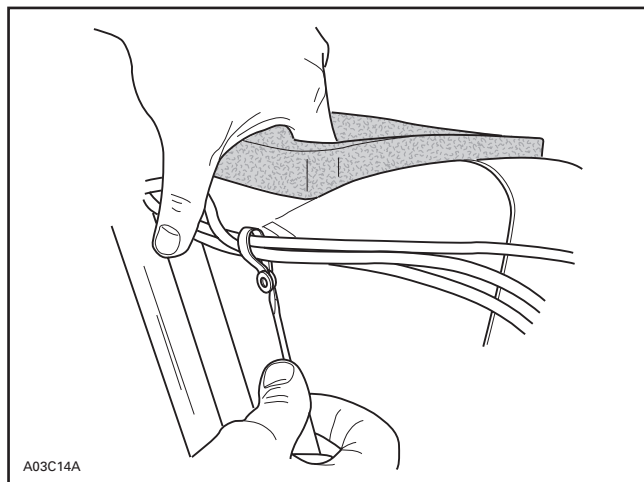
Unfasten spark plug cables from fan housing. Unplug spark plug caps.

Unplug electronic box harness underneath carburetors by inserting a screwdriver in connector tab and pull tab as illustrated.



1. Plastic clip
2. CDI box harness connector

Open plastic clip that is positioned on air intake silencer. Insert a flat tip screw driver and turn as illustrated.

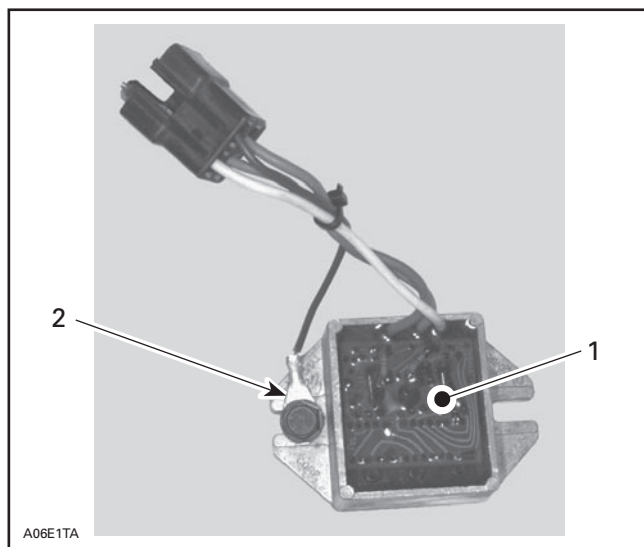


Remove air intake silencer.

INSTALLATION

Voltage Regulator

Remove original regulator/rectifier, located along RH side member of frame. Secure voltage regulator **no. 1** on both sides using self tapping screws **no. 2** as well as connecting ground wire from voltage regulator as shown.



1. Voltage regulator
2. Connect ground wire here

Apply silicone dielectric grease (P/N 293 550 004) in voltage regulator 4-connector housing as well as vehicle harness 4-connector housing and plug them together.

Ring Gear

Remove drive pulley. Refer to *Shop Manual* to perform drive pulley disassembly/assembly procedures and to proceed with pulley alignment.

Secure ring gear **no. 16** on inner half using 6 self-tapping screws **no. 17**. Apply Loctite 271 (red) on screw threads.

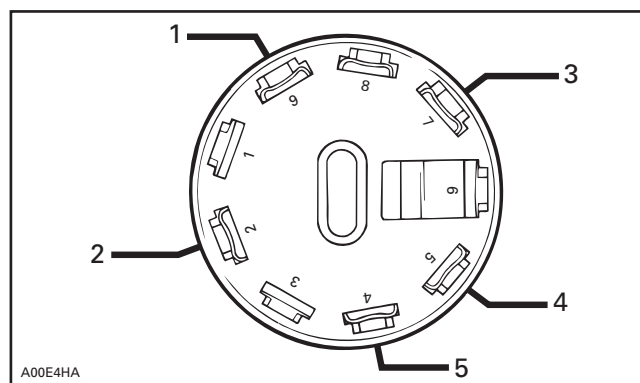
CAUTION: Loctite 271 (red) must be applied to properly assemble the ring gear.

Torque screws to 11 N•m (97 lbf•in) in a criss-cross sequence.

Do not reinstall drive pulley at this time.

Ignition Switch

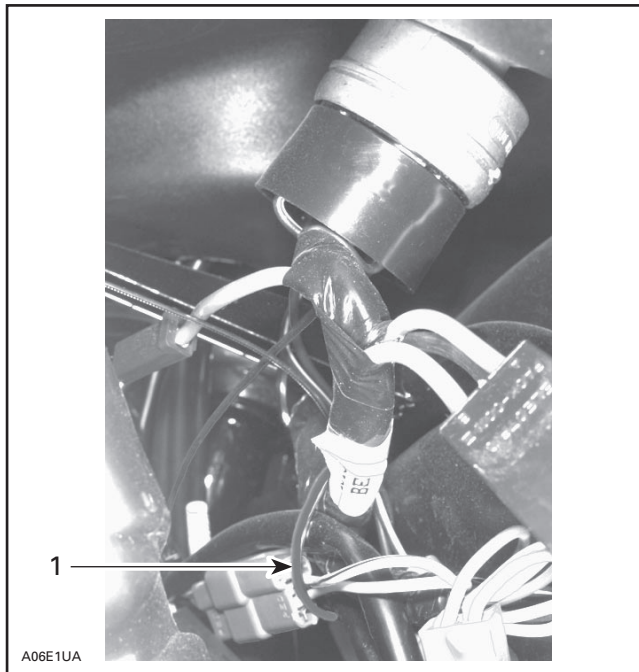
Cut locking tie and unplug switch connector housing from ignition switch. Insert shortest wire of fuse holder **no. 27** inside switch connector housing. Insert connector in position number 7 on switch connector housing. Reposition connectors respecting vehicle connector code as illustrated.



1. RED/GREEN wire to solenoid
2. BLACK/YELLOW
3. RED wire with fuse to battery
4. BLACK
5. RED/BLUE

Remove existing ignition switch and install ignition switch **no. 37**.

Replug switch connector housing to ignition switch and secure wires with a locking tie **no. 28** as shown.



1. Locking tie

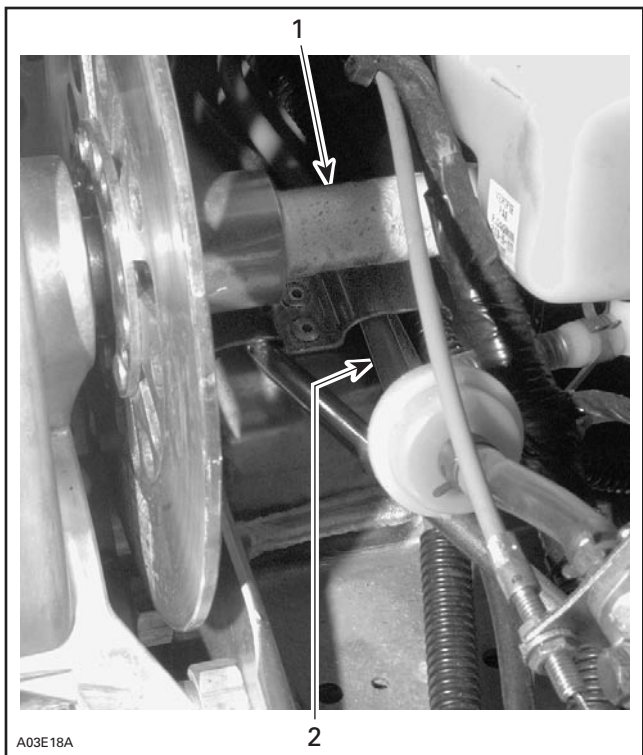
Wire/Cable Connections and Routing

Ensure that one connector of RED positive battery cable **no. 22** is straight and other connector is bent to 60°. Bend or straighten as necessary.

Starting from battery location, route battery cable along vehicle harness to starter location.

The straight connector will be connected to battery.

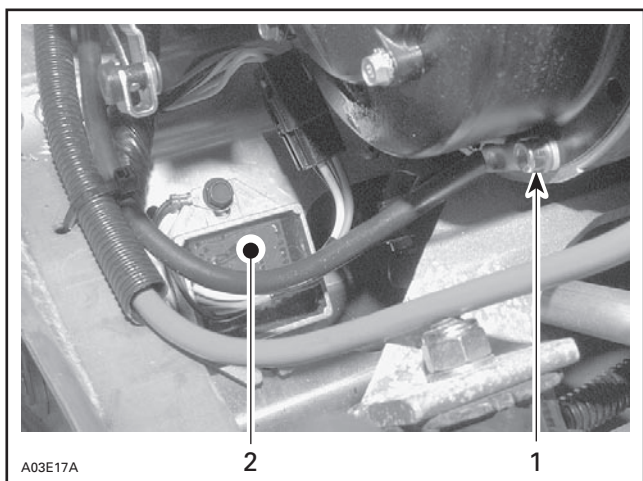
NOTE: Route battery cables through free bracket underneath countershaft as illustrated.



1. Countershaft
2. Battery cables underneath bracket

Install BLACK battery ground cable **no. 20** with star lock washer **no. 21** to rewind starter. Secure with existing rewind starter bolt. Refer to following illustration for proper cable positioning.

NOTE: Connect BLACK ground cable in specified order. Position star washer first then BLACK ground cable and tighten with original screw.



1. Connect BLACK ground cable here
2. Regulator

Electric Starter

CAUTION: Apply Loctite 271 (red) on all fastener threads of starter supports.

Install starter support no. 3 (PTO side) to engine using socket screws no. 4 and lock washers no. 5. Tighten firmly.

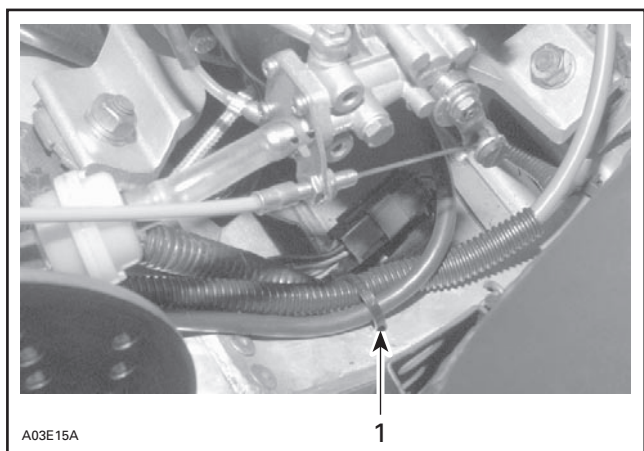
Install electric starter no. 8 on support. Secure bottom first and then top using socket screws no. 6 and lock washers no. 7.

Install washers no. 11 over nuts of starter through bolts (MAG side).

Install starter support no. 9 (MAG side) to starter and secure with flanged elastic nuts no. 10.

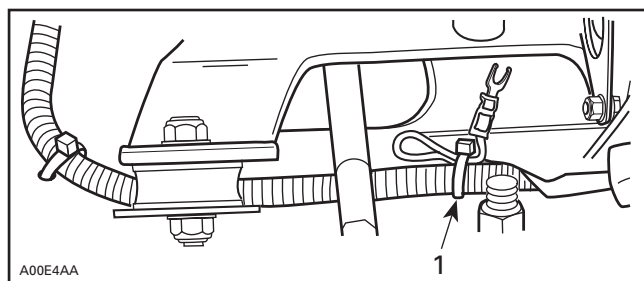
If necessary, install hardened washer(s) no. 15 to fill gap between support and engine. Secure support to engine with washer no. 14, lock washer no. 13 and screw no. 12.

Install cable protector no. 34 then slide protector cap no. 23 onto RED battery cable no. 22. Bend terminal to fit. Install RED cable on starter with washer no. 26, lock washer no. 24 and nut no. 25. Cover starter terminal with protector cap. Install locking tie as shown.



1. Locking tie

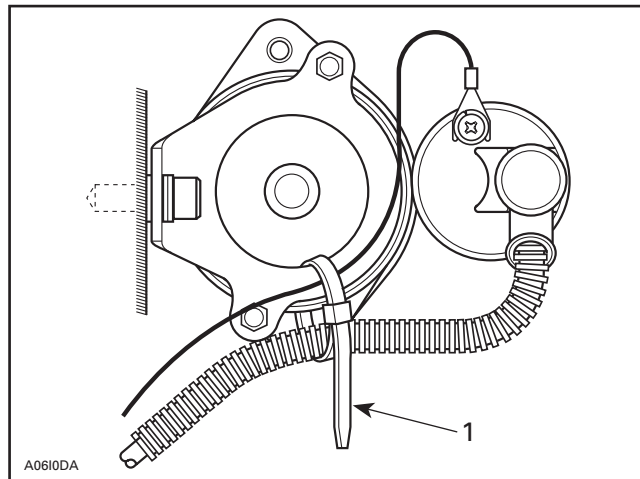
Cut locking tie that is retaining RED/GREEN wire to wiring harness beneath engine.



1. Cut locking tie

Connect RED/GREEN wire to small post on solenoid. Position connector under lock washer.

Secure cables loosely to rear bracket with a locking tie no. 28, as illustrated.



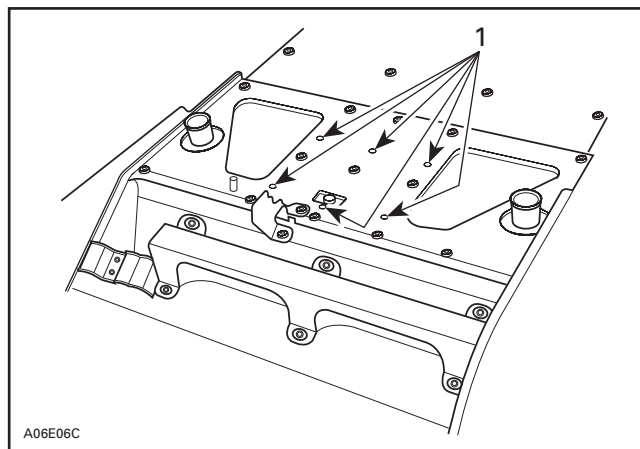
1. Tie loosely

Pull excess amount of cable from underneath engine.

Battery and Rack

CAUTION: Cover carburetor intakes with a clean rag during the following drilling operation.

Drill 6 holes in chassis with a 5.2 mm (13/64 in) drill bit as shown in following illustration. Use existing holes in chassis as a guide.



1. Drill 5.2 mm (13/64 in) holes

Secure battery seat no. 18 with 6 rivets no. 19.

Install rubber strip no. 30 and battery no. 29 on seat.

Insert protector cap no. 23 onto RED positive cable. Connect battery RED positive cable and RED wire with fuse from ignition switch to battery, cover post with protector cap, THEN connect BLACK ground cable. Secure cables on top of battery posts.

WARNING

Always connect the battery cables exactly in the specified order. Connect RED positive cable first, then BLACK negative ground cable.

Install strips **no. 31** and **no. 32** and secure with flanged elastic nut **no. 33**. Route RED battery cable and RED wire through indentation on front battery strip. Fasten battery cables using a locking tie **no. 35**.

WARNING

Ensure all terminals are properly crimped on wires/cables and that all connector housings are properly fastened. Keep wires away from any rotating, moving, heating or vibrating parts as well as from sharp edges. Use proper fastening devices as required.

FINALIZING INSTALLATION

NOTE: Refer to appropriate *Ski-Doo Shop Manual* for proper reinstallation procedure.

Reinstall drive pulley.

Check pulley alignment.

WARNING

Drive pulley alignment must always be checked whenever pulleys have been removed, replaced or disassembled.

Reinstall remaining removed parts.

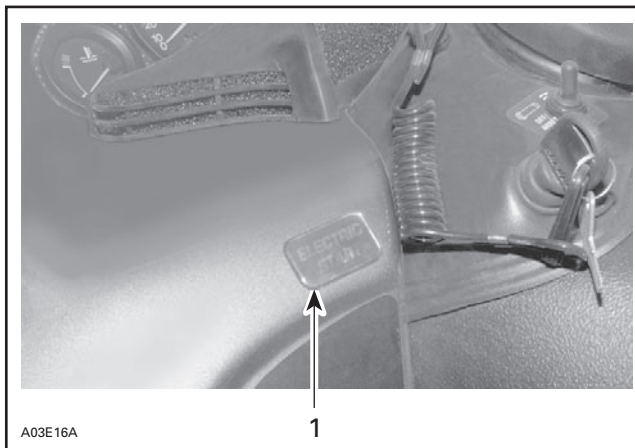
Decal

Clean decal area with soapy water or isopropyl alcohol using a soft clean cloth and dry thoroughly.

CAUTION: Do not apply isopropyl alcohol on decal.

Remove backing from decal.

Apply decal **no. 36** as shown.



1. Decal

The following table is to be consulted if and when a tightening torque is required but not specified.

Bold face size indicates nominal value (mean value).

N•m	FASTENER SIZE (8.8 grade)	Lbf•in
2	M4	18
3	M4	27
4	M5	35
8	M6	71
9	M6	80
10	M6	89
11	M6	97
12	M6	106

N•m	FASTENER SIZE (8.8 grade)	Lbf•ft
21	M8	15
22	M8	16
23	M8	17
24	M8	18
25	M8	18
43	M10	32
44	M10	32
45	M10	33
46	M10	34
47	M10	35
48	M10	35
49	M10	36
50	M10	37
51	M10	38
52	M10	38
53	M10	39
76	M12	56
77	M12	57
78	M12	58
79	M12	58

N•m	FASTENER SIZE (8.8 grade)	Lbf•ft
80	M12	59
81	M12	60
82	M12	60
83	M12	61
84	M12	62
121	M14	89
122	M14	90
123	M14	91
124	M14	91
125	M14	92
126	M14	93
127	M14	94
128	M14	94
129	M14	95
130	M14	96
131	M14	97
132	M14	97
133	M14	98
134	M14	99
135	M14	100
136	M14	100
137	M14	101
138	M14	102
139	M14	103
140	M14	103
141	M14	104
142	M14	105
143	M14	105
144	M14	106
145	M14	107
146	M14	108
147	M14	108
148	M14	109
149	M14	110
150	M14	111

861 766 300

1.	515 175 546	Voltage Regulator	Régulateur de tension
2.	210 261 680	Hexagonal Self-Tapping Screw M6 x 16 (2)	Vis autotaraudeuse à tête hexagonale M6 x 16 (2)
3.	420 951 413	Starter Support PTO	Support de démarreur (côté PDM)
4.	205 082 044	Socket Screw M8 x 20 (2)	Vis à tête creuse M8 x 20 (2)
5.	420 945 752	Lock Washer M8 (2)	Rondelle-frein M8 (2)
6.	205 082 544	Socket Screw M8 x 25 (2)	Vis à tête creuse M8 x 25 (2)
7.	234 181 401	Lock Washer M8 (2)	Rondelle-frein M8 (2)
8.	410 212 400	Starter	Démarreur
9.	420 951 427	Starter Support MAG	Support de démarreur (côté MAG)
10.	233 251 414	Flanged Elastic Nut M5 (2)	Écrou d'arrêt élastique à épaulement M5 (2)
11.	391 301 700	Flat Washer M5 (2)	Rondelle plate M5 (2)
12.	205 082 044	Socket Screw M8 x 20	Vis à tête creuse M8 x 20
13.	420 945 752	Lock Washer M8	Rondelle-frein M8
14.	234 081 410	Flat Washer M8	Rondelle plate M8
15.	503 007 900	Hardened Washer (2)	Rondelle trempée (2)
16.	415 043 100	Ring Gear	Couronne de lancement
17.	236 281 684	Self-Tapping Screw M8 x 16 (6)	Vis autotaraudeuse M8 x 16 (6)
18.	517 286 200	Battery Seat	Support de batterie
19.	390 402 200	Rivet (6)	Rivet (6)
20.	515 175 287	Battery Ground Cable (BLACK)	Câble de masse de la batterie (NOIR)
21.	394 001 900	Lock Washer (star)	Rondelle-frein en étoile
22.	515 175 288	Battery Positive Cable (RED)	Câble positif de la batterie (ROUGE)
23.	570 151 000	Protector Cap (2)	Capuchon de protection (2)
24.	420 945 752	Lock Washer M8	Rondelle-frein M8
25.	232 081 414	Hexagonal Nut M8	Écrou hexagonal M8
26.	234 081 410	Flat Washer M8	Rondelle plate M8
27.	515 157 300	Fuse Holder	Porte-fusible
28.	414 115 200	Locking Tie (8)	Attache (8)
29.	710 000 283	Battery	Batterie
30.	570 070 300	Rubber Strip	Bande de caoutchouc
31.	515 175 207	Welded Steel Strip	Bande d'acier soudée
32.	515 175 116	Steel Strip	Bande d'acier
33.	233 251 414	Flanged Elastic Nut	Écrou d'arrêt élastique à épaulement
34.	409 901 800	Protector	Protecteur
35.	293 750 008	Locking Tie	Attache
36.	418 001 300	Decal	Autocollant
37.	410 113 602	Ignition Switch	Interrupteur d'allumage



**ELECTRIC STARTER KIT
(P/N 861 771 300)**

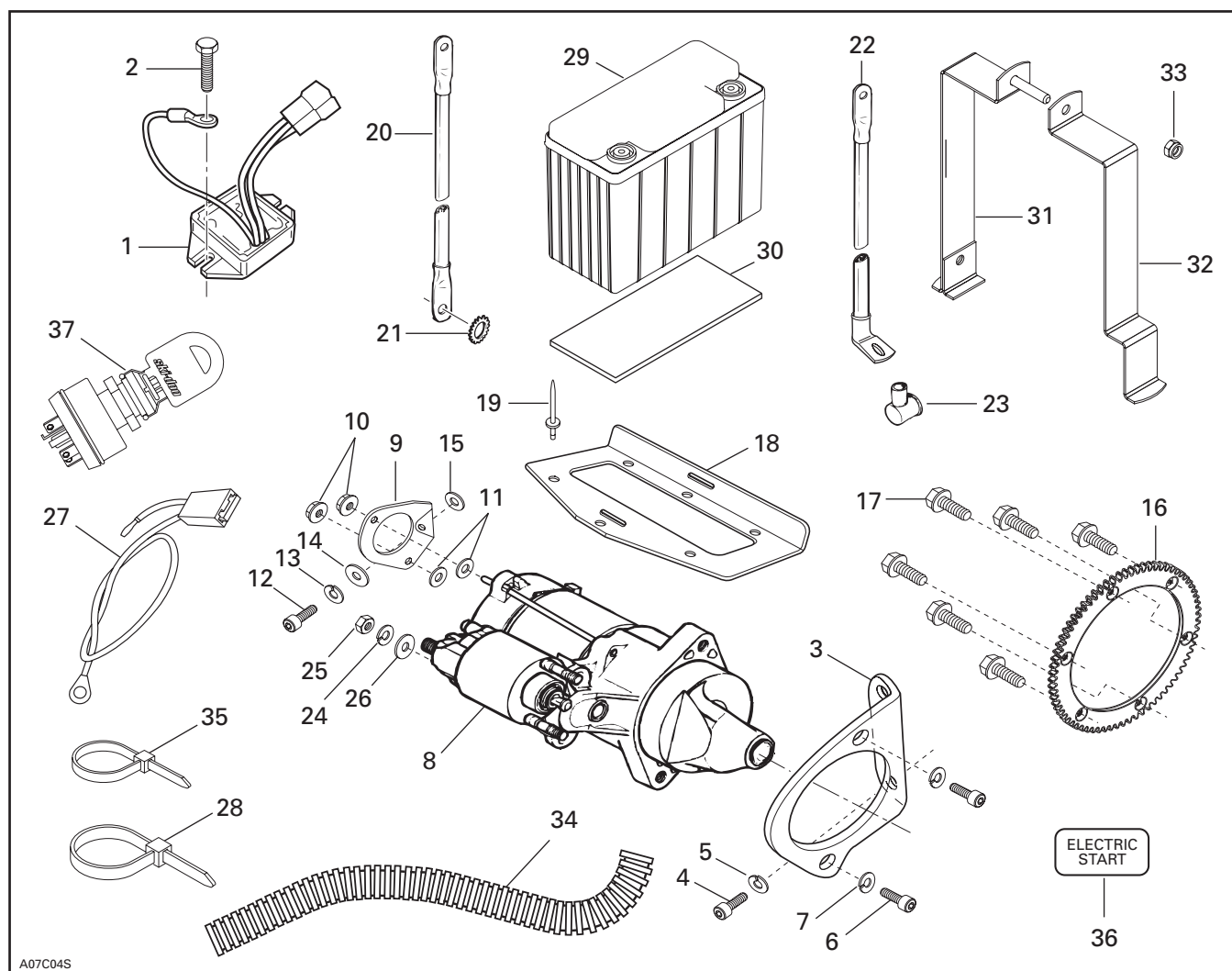
⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. Torque wrench tightening specifications must strictly be adhered to; refer to table at the end of this document. This instruction sheet should be given to the purchaser.

This kit is designed for specific applicable models only (your authorized Ski-Doo snowmobile dealer will confirm models). It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 2.5 hours.

PARTS TO BE INSTALLED



A07C04S

- | | |
|--|----------------------------------|
| 1. Voltage Regulator | 20. Battery Ground Cable (BLACK) |
| 2. Hexagonal Self-Tapping Screw M6 x 16 (2) | 21. Lock Washer (star) |
| 3. Starter Support PTO | 22. Battery Positive Cable (RED) |
| 4. Socket Screw M8 x 20 (2) | 23. Protector Cap (2) |
| 5. Lock Washer M8 (2) | 24. Lock Washer M8 |
| 6. Socket Screw M8 x 25 (2) | 25. Hexagonal Nut M8 |
| 7. Lock Washer M8 (2) | 26. Flat Washer M8 |
| 8. Starter | 27. Fuse Holder |
| 9. Starter Support MAG | 28. Locking Tie (8) |
| 10. Flanged Elastic Nut M5 (2) | 29. Battery |
| 11. Flat Washer (2) | 30. Rubber Strip |
| 12. Socket Screw M8 x 20 | 31. Welded Steel Strip |
| 13. Lock Washer M8 | 32. Steel Strip |
| 14. Flat Washer M8 | 33. Flanged Elastic Nut |
| 15. Hardened Washer (2) | 34. Protector |
| 16. Ring Gear | 35. Locking Tie |
| 17. Hexagonal Self-Tapping Screw M8 x 16 (6) | 36. Decal |
| 18. Battery Seat | 37. Ignition Switch |
| 19. Rivet (6) | |

VEHICLE PREPARATION

Battery

NOTE: Refer to appropriate *Ski-Doo Shop Manual* for proper battery removal/installation procedure.

Battery must be charged prior to installing this electric starter kit.

WARNING

Never charge or boost battery while connected or installed in vehicle.

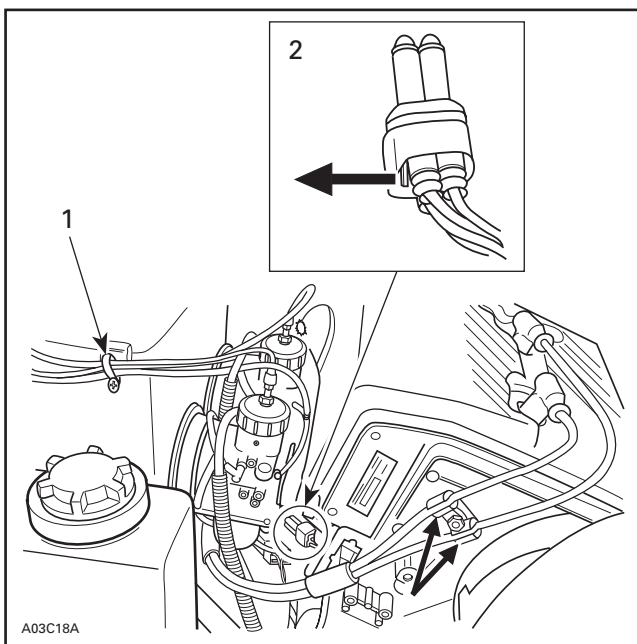
Vehicle

Close fuel shut off valve, if equipped.

Remove exhaust system, belt guard and drive belt.

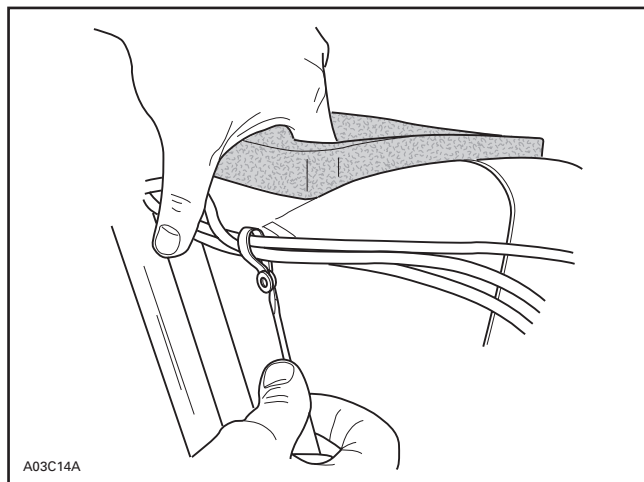
Unfasten spark plug cables from fan housing. Unplug spark plug caps.

Unplug electronic box harness underneath carburetors by inserting a screwdriver in connector tab and pull tab as illustrated.



1. Plastic clip
2. CDI box harness connector

Open plastic clip that is positioned on air intake silencer. Insert a flat tip screw driver and turn as illustrated.

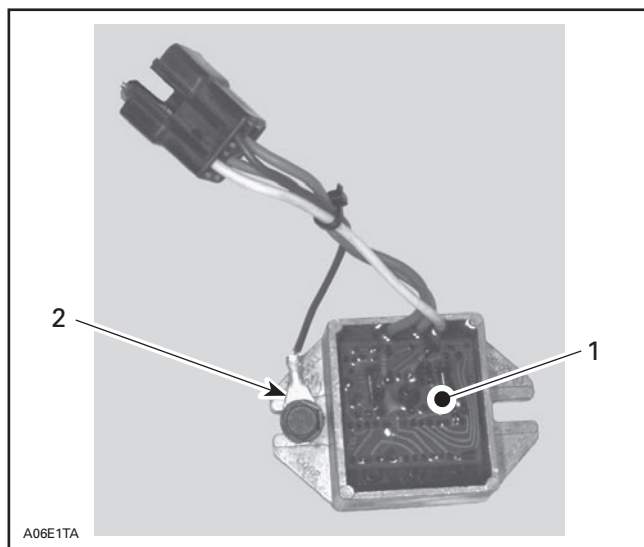


Remove air intake silencer.

INSTALLATION

Voltage Regulator

Remove original regulator/rectifier, located along RH side member of frame. Secure voltage regulator **no. 1** on both sides using self tapping screws **no. 2** as well as connecting ground wire from voltage regulator as shown.



1. Voltage regulator
2. Connect ground wire here

Apply silicone dielectric grease (P/N 293 550 004) in voltage regulator 4-connector housing as well as vehicle harness 4-connector housing and plug them together.

Ring Gear

Remove drive pulley. Refer to *Shop Manual* to perform drive pulley disassembly/assembly procedures and to proceed with pulley alignment.

Secure ring gear **no. 16** on inner half using 6 self-tapping screws **no. 17**. Apply Loctite 271 (red) on screw threads.

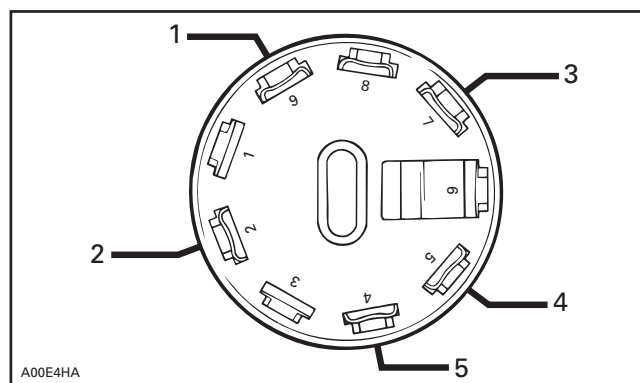
CAUTION: Loctite 271 (red) must be applied to properly assemble the ring gear.

Torque screws to 11 N•m (97 lbf•in) in a criss-cross sequence.

Do not reinstall drive pulley at this time.

Ignition Switch

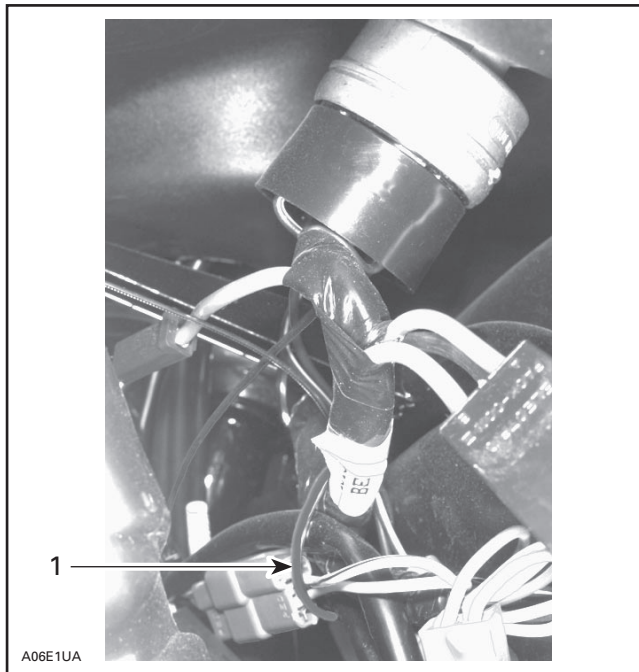
Cut locking tie and unplug switch connector housing from ignition switch. Insert shortest wire of fuse holder **no. 27** inside switch connector housing. Insert connector in position number 7 on switch connector housing. Reposition connectors respecting vehicle connector code as illustrated.



1. RED/GREEN wire to solenoid
2. BLACK/YELLOW
3. RED wire with fuse to battery
4. BLACK
5. RED/BLUE

Remove existing ignition switch and install ignition switch **no. 37**.

Replug switch connector housing to ignition switch and secure wires with a locking tie **no. 28** as shown.



1. Locking tie

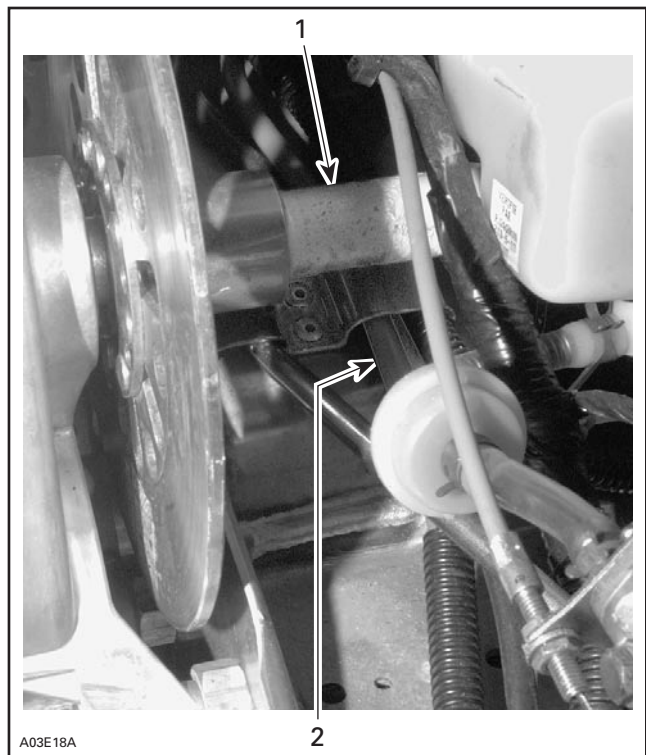
Wire/Cable Connections and Routing

Ensure that one connector of RED positive battery cable **no. 22** is straight and other connector is bent to 60°. Bend or straighten as necessary.

Starting from battery location, route battery cable along vehicle harness to starter location.

The straight connector will be connected to battery.

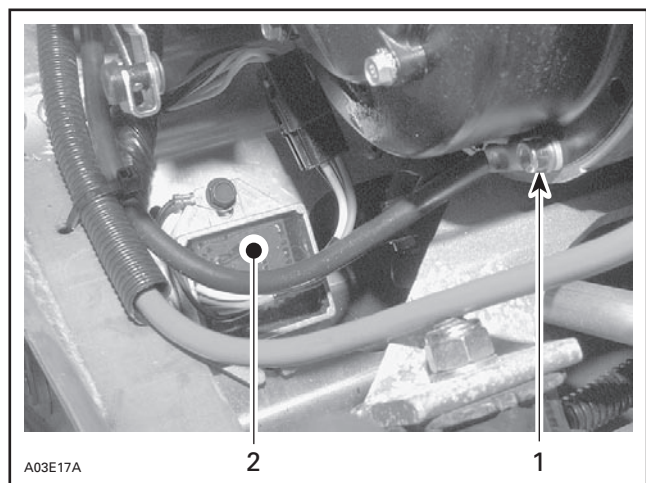
NOTE: Route battery cables through free bracket underneath countershaft as illustrated.



1. Countershaft
2. Battery cables underneath bracket

Install BLACK battery ground cable **no. 20** with star lock washer **no. 21** to rewind starter. Secure with existing rewind starter bolt. Refer to following illustration for proper cable positioning.

NOTE: Connect BLACK ground cable in specified order. Position star washer first then BLACK ground cable and tighten with original screw.



1. Connect BLACK ground cable here
2. Regulator

Electric Starter

CAUTION: Apply Loctite 271 (red) on all fastener threads of starter supports.

Install starter support **no. 3** (PTO side) to engine using socket screws **no. 4** and lock washers **no. 5**. Tighten firmly.

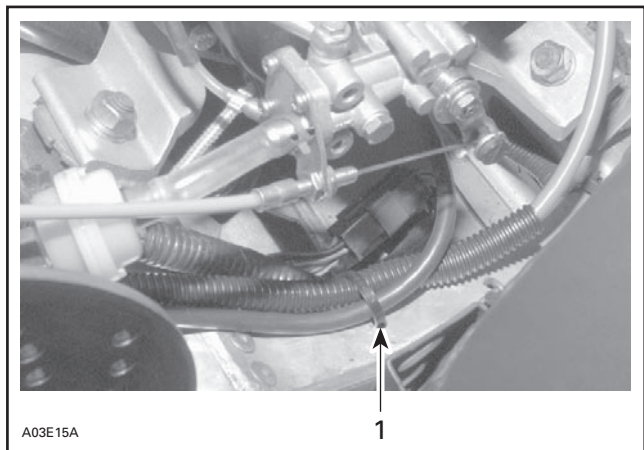
Install electric starter **no. 8** on support. Secure bottom first and then top using socket screws **no. 6** and lock washers **no. 7**.

Install washers **no. 11** over nuts of starter through bolts (MAG side).

Install starter support **no. 9** (MAG side) to starter and secure with flanged elastic nuts **no. 10**.

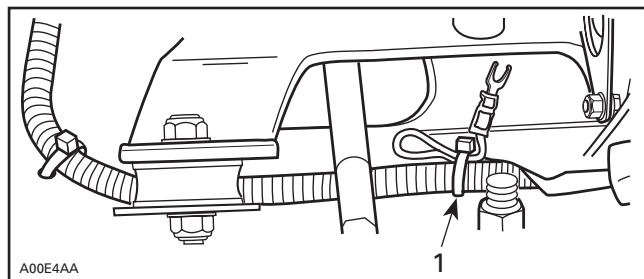
If necessary, install hardened washer(s) **no. 15** to fill gap between support and engine. Secure support to engine with washer **no. 14**, lock washer **no. 13** and screw **no. 12**.

Install cable protector **no. 34** then slide protector cap **no. 23** onto RED battery cable **no. 22**. Bend terminal to fit. Install RED cable on starter with washer **no. 26**, lock washer **no. 24** and nut **no. 25**. Cover starter terminal with protector cap. Install locking tie as shown.



1. Locking tie

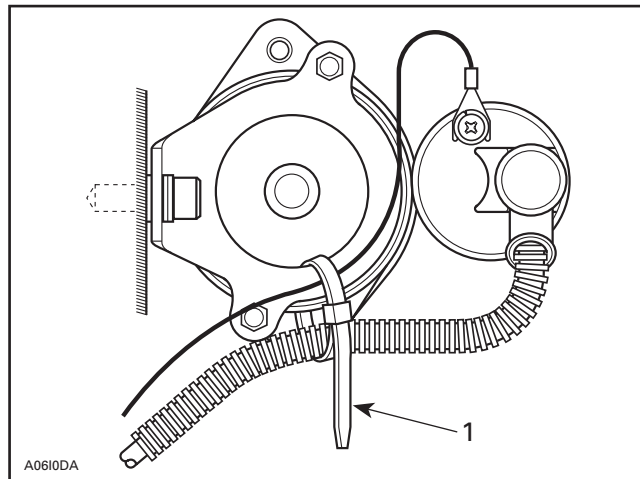
Cut locking tie that is retaining RED/GREEN wire to wiring harness beneath engine.



1. Cut locking tie

Connect RED/GREEN wire to small post on solenoid. Position connector under lock washer.

Secure cables loosely to rear bracket with a locking tie **no. 28**, as illustrated.



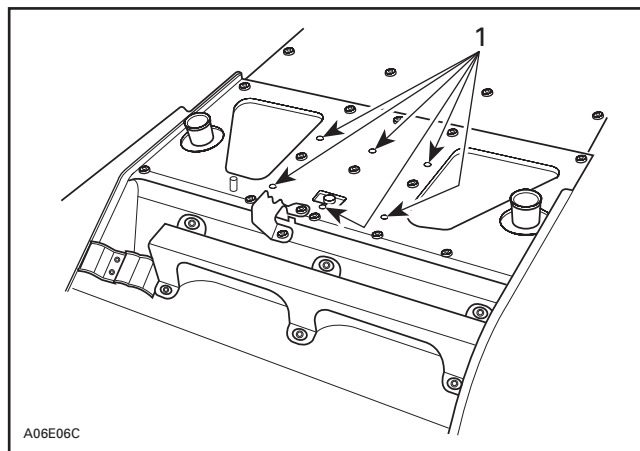
1. Tie loosely

Pull excess amount of cable from underneath engine.

Battery and Rack

CAUTION: Cover carburetor intakes with a clean rag during the following drilling operation.

Drill 6 holes in chassis with a 5.2 mm (13/64 in) drill bit as shown in following illustration. Use existing holes in chassis as a guide.



1. Drill 5.2 mm (13/64 in) holes

Secure battery seat **no. 18** with 6 rivets **no. 19**.

Install rubber strip **no. 30** and battery **no. 29** on seat.

Insert protector cap **no. 23** onto RED positive cable. Connect battery RED positive cable and RED wire with fuse from ignition switch to battery, cover post with protector cap, THEN connect BLACK ground cable. Secure cables on top of battery posts.

WARNING

Always connect the battery cables exactly in the specified order. Connect RED positive cable first, then BLACK negative ground cable.

Install strips **no. 31** and **no. 32** and secure with flanged elastic nut **no. 33**. Route RED battery cable and RED wire through indentation on front battery strip. Fasten battery cables using a locking tie **no. 35**.

WARNING

Ensure all terminals are properly crimped on wires/cables and that all connector housings are properly fastened. Keep wires away from any rotating, moving, heating or vibrating parts as well as from sharp edges. Use proper fastening devices as required.

FINALIZING INSTALLATION

NOTE: Refer to appropriate *Ski-Doo Shop Manual* for proper reinstallation procedure.

Reinstall drive pulley.

Check pulley alignment.

WARNING

Drive pulley alignment must always be checked whenever pulleys have been removed, replaced or disassembled.

Reinstall remaining removed parts.

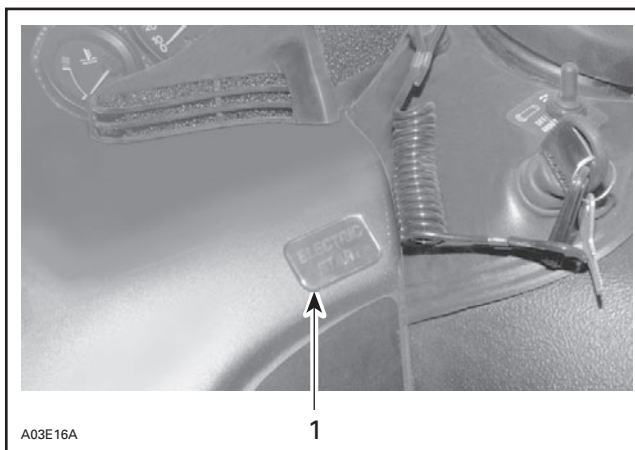
Decal

Clean decal area with soapy water or isopropyl alcohol using a soft clean cloth and dry thoroughly.

CAUTION: Do not apply isopropyl alcohol on decal.

Remove backing from decal.

Apply decal **no. 36** as shown.



1. Decal

The following table is to be consulted if and when a tightening torque is required but not specified.

Bold face size indicates nominal value (mean value).

N•m	FASTENER SIZE (8.8 grade)	Lbf•in
2	M4	18
3	M4	27
4	M5	35
8	M6	71
9	M6	80
10	M6	89
11	M6	97
12	M6	106

N•m	FASTENER SIZE (8.8 grade)	Lbf•ft
21	M8	15
22	M8	16
23	M8	17
24	M8	18
25	M8	18
43	M10	32
44	M10	32
45	M10	33
46	M10	34
47	M10	35
48	M10	35
49	M10	36
50	M10	37
51	M10	38
52	M10	38
53	M10	39
76	M12	56
77	M12	57
78	M12	58
79	M12	58

N•m	FASTENER SIZE (8.8 grade)	Lbf•ft
80	M12	59
81	M12	60
82	M12	60
83	M12	61
84	M12	62
121	M14	89
122	M14	90
123	M14	91
124	M14	91
125	M14	92
126	M14	93
127	M14	94
128	M14	94
129	M14	95
130	M14	96
131	M14	97
132	M14	97
133	M14	98
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137	M14	101
138	M14	102
139	M14	103
140	M14	103
141	M14	104
142	M14	105
143	M14	105
144	M14	106
145	M14	107
146	M14	108
147	M14	108
148	M14	109
149	M14	110
150	M14	111

861 771 300

1.	515 175 546	Voltage Regulator	Régulateur de tension
2.	210 261 680	Hexagonal Self-Tapping Screw M6 x 16 (2)	Vis autotaraudeuse à tête hexagonale M6 x 16 (2)
3.	420 951 692	Starter Support PTO	Support de démarreur (côté PDM)
4.	205 082 044	Socket Screw M8 x 20 (2)	Vis à tête creuse M8 x 20 (2)
5.	420 945 752	Lock Washer M8 (2)	Rondelle-frein M8 (2)
6.	205 082 544	Socket Screw M8 x 25 (2)	Vis à tête creuse M8 x 25 (2)
7.	234 181 401	Lock Washer M8 (2)	Rondelle-frein M8 (2)
8.	410 212 400	Starter	Démarreur
9.	420 951 702	Starter Support MAG	Support de démarreur (côté MAG)
10.	233 251 414	Flanged Elastic Nut M5 (2)	Écrou d'arrêt élastique à épaulement M5 (2)
11.	391 301 700	Flat Washer (2)	Rondelle plate (2)
12.	205 082 044	Socket Screw M8 x 20	Vis à tête creuse M8 x 20
13.	420 945 752	Lock Washer M8	Rondelle-frein M8
14.	234 081 410	Flat Washer M8	Rondelle plate M8
15.	503 007 900	Hardened Washer (2)	Rondelle trempée (2)
16.	414 807 500	Ring Gear	Couronne de lancement
17.	210 361 686	Hexagonal Self-Tapping Screw M8 x 16 (6)	Vis autotaraudeuse à tête hexagonale M8 x 16 (6)
18.	517 286 200	Battery Seat	Support de batterie
19.	390 402 200	Rivet (6)	Rivet (6)
20.	515 175 287	Battery Ground Cable (BLACK)	Câble de masse de la batterie (NOIR)
21.	394 001 900	Lock Washer (star)	Rondelle-frein en étoile
22.	515 175 288	Battery Positive Cable (RED)	Câble positif de la batterie (ROUGE)
23.	570 151 000	Protector Cap (2)	Capuchon de protection (2)
24.	420 945 752	Lock Washer M8	Rondelle-frein M8
25.	232 081 414	Hexagonal Nut M8	Écrou hexagonal M8
26.	234 081 410	Flat Washer M8	Rondelle plate M8
27.	515 157 300	Fuse Holder	Porte-fusible
28.	414 115 200	Locking Tie (8)	Attache (8)
29.	710 000 283	Battery	Batterie
30.	570 070 300	Rubber Strip	Bande de caoutchouc
31.	515 175 207	Welded Steel Strip	Bande d'acier soudée
32.	515 175 116	Steel Strip	Bande d'acier
33.	233 251 414	Flanged Elastic Nut	Écrou élastique à épaulement
34.	409 901 800	Protector	Protecteur
35.	293 750 008	Locking Tie	Attache
36.	418 001 300	Decal	Autocollant
37.	410 113 602	Ignition Switch	Interrupteur d'allumage

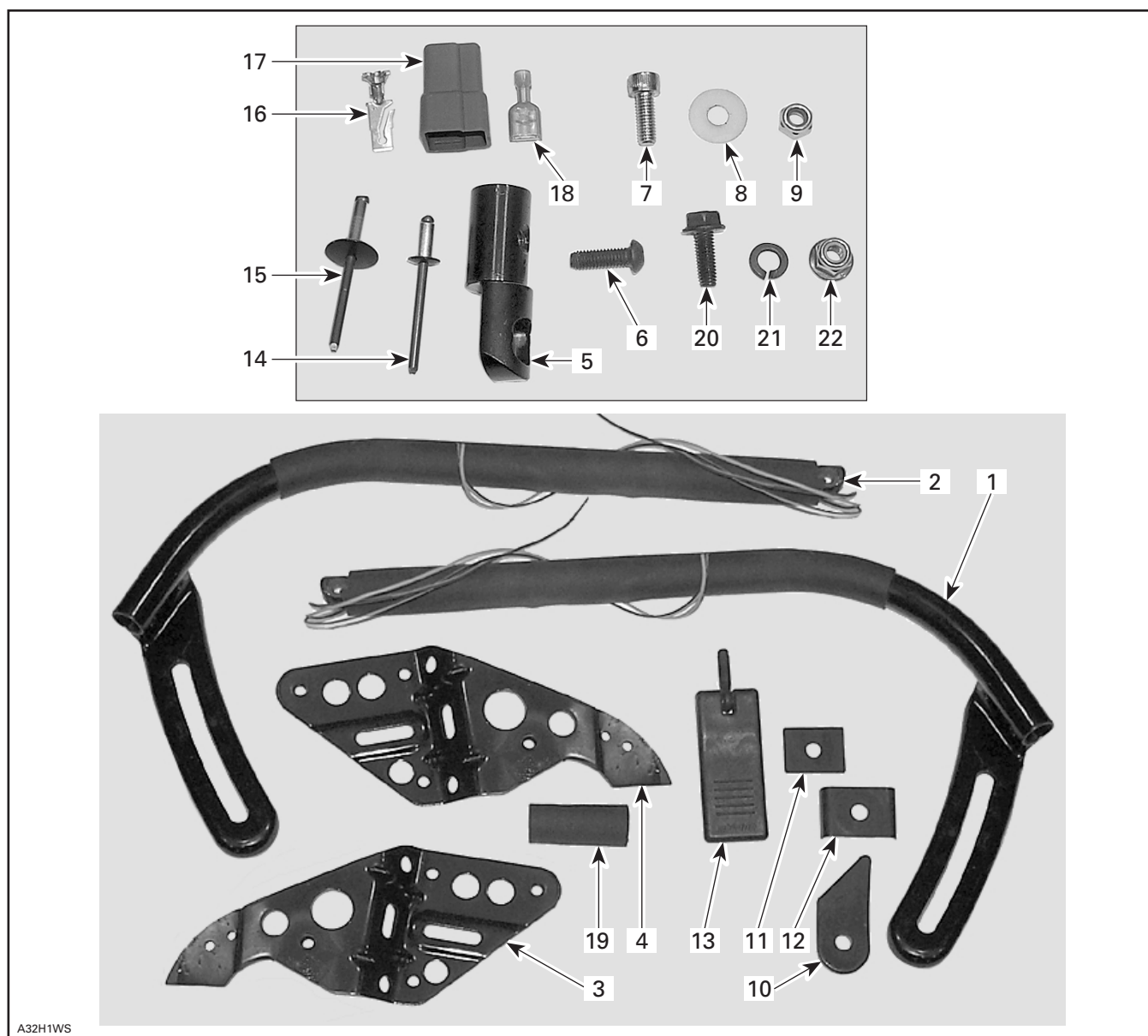
**ADJUSTABLE ARM KIT
(P/N 861 776 700)**

⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. This instruction sheet should be given to the purchaser. This kit is designed for specific applicable models only. It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 1.0 hour.

PARTS TO BE INSTALLED



A32H1WS

1. Right Hand Arm Assembly
2. Left Hand Arm Assembly
3. Right Hand Retaining Plate
4. Left Hand Retaining Plate
5. Pivot (2)
6. Hexagonal Socket Head Bolt M6 x 18 (2)
7. Hexagonal Socket Head Bolt M6 x 16 (2)
8. Plastic Flat Washer M6 (2)
9. Hexagonal Elastic Nut (2)
10. Spacer Block (2)
11. Outer Spacer (2)

12. Guide (2)
13. Lever Assembly (2)
14. Black Rivet 3/16 in (4)
15. Black Rivet 3/16 in (4)
16. Male Terminal (3)
17. Male Housing
18. Female Terminal (3)
19. Handle Grip
20. Self-Tapping Flanged Hexagonal Screw (6)
21. Helicoid Lock Washer M6 (6)
22. Elastic Flanged Nut M6 (2)

PROCEDURE

Remove seat and rear mouldings then disconnect electrical housings. See *Ski-Doo Shop Manual*, for proper procedure.

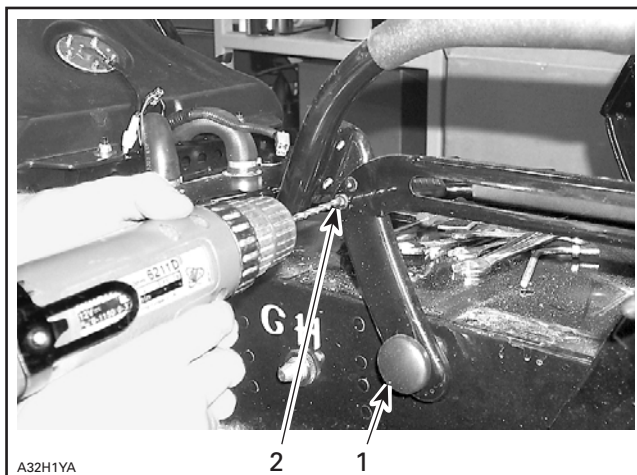
Using a M5 (3/16 in) drill, drill rivets securing hand protectors. Keep protectors for further reinstallation.



A32H1XA

Using a M5 (3/16 in) drill, drill rivets securing fixation plates.

Remove caps and unscrew fixation plates. Discard bolt, nuts, bushings and washers.



A32H1YA

1. Remove cap and unscrew bolt
2. Drill rivets

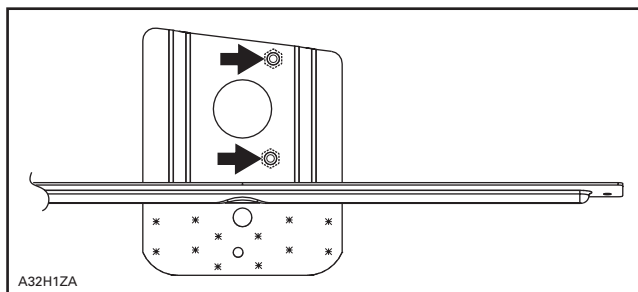
Gently pull arm toward front to free it from luggage rack.

Dismount rear suspension and drill frame through suspension plate welded nuts as shown on next drawing.

CAUTION: Take care to avoid damaging threads while drilling.

Use a M6 drill to chamfer chassis hole.

Fixation plate is secured with screws **no. 20** and the lock washers **no. 21**.

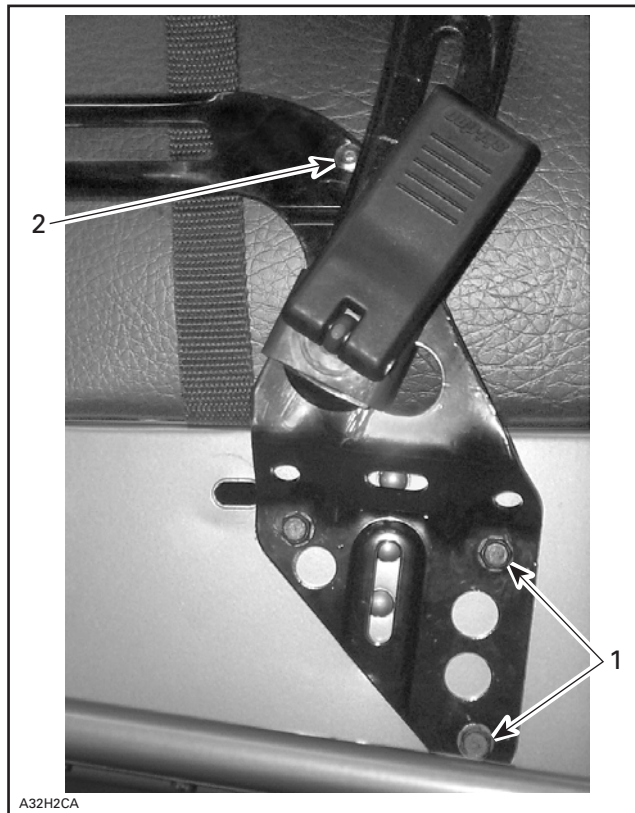


Left Arm Replacement

Cut connector and remove harness from upright. Do not remove sheath.

On frame side, install fixation plate **no. 4** with two screws **no. 20** and two lock washers **no. 21** in holes previously drilled.

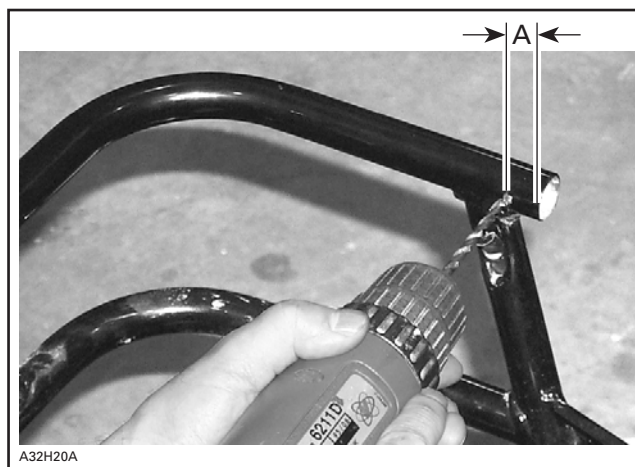
Using rack reinforcement holes as a template, drill a 5 mm (3/16 in) hole and install left hand fixation plate **no. 4** with two rivets **no. 14** on luggage rack reinforcement.



1. Secure plate using these holes
2. Drill and rivet

With a punch, mark a hole on center of tubing at 14.5 mm (9/16 in) from end of luggage rack tubing (inside rack).

Drill tubing with a M6 (7/32 in) drill.



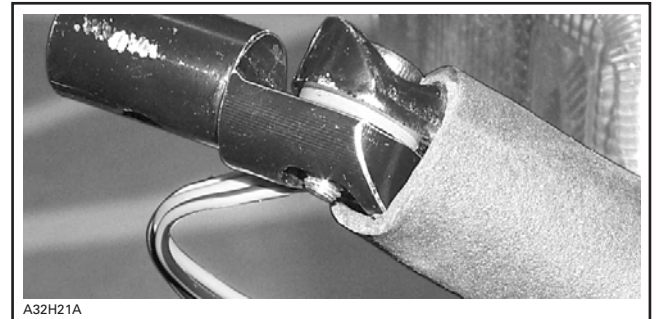
A. 14.5 mm (9/16 in)

Insert pivot **no. 5** on left hand arm assembly **no. 2** and secure with a hexagonal socket head bolt **no. 7** and hexagonal elastic nut **no. 9**. Insert plastic flat washer **no. 8** between pivot and arm.

Insert wires in upright's upper sheath and pull out from lower hole of upright. Make sure lower sheath is around wires.

Insert pivot **no. 5** in tubing and secure it with hexagonal socket head bolt **no. 6**.

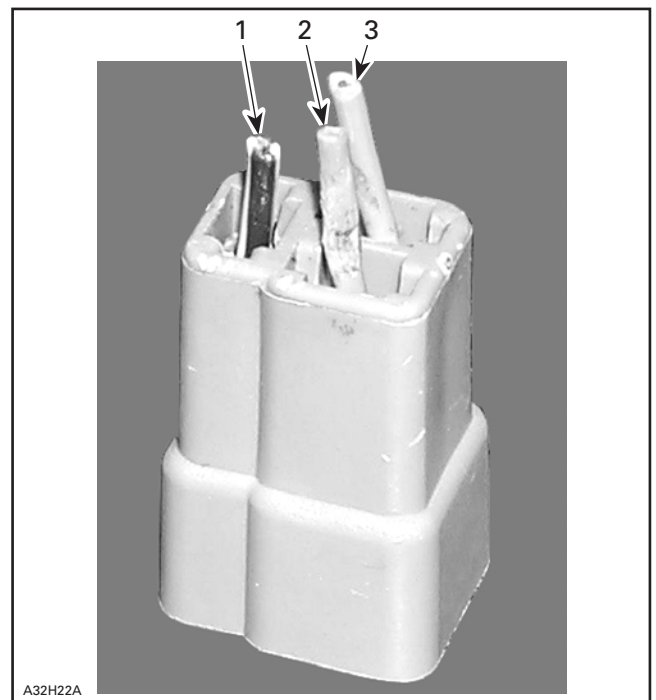
NOTE: The soldering of the upright may interfere with pivot. There may be necessary to grind the interior of the tubing to manage room to the pivot.



Unsheathe wires and clamp male terminals **no. 16**.

NOTE: To ensure a good electrical contact and a good mechanical resistance, threads can be soldered on terminals.

Insert wires into male connector **no. 17** according to the following photo.



1. YELLOW/BLACK
2. ORANGE/VIOLET
3. ORANGE

Adjust and secure arm using lever assembly **no. 13**, guide **no. 12**, outer spacer **no. 11** and spacer block **no. 10**.

Right Arm Replacement

Unscrew cover of rear heating grip switch. Cut wires leading to the handle grip long enough to be able to identify wire colors at reassembly and loosen set screw to free switch from handle.

NOTE: Handle may be replaced with grip sheath **no. 19** if necessary.

Insert switch in right hand arm assembly **no. 1**.

On frame side, install fixation plate with two screws **no. 20**, and two lock washers **no. 21** in holes previously drilled.

Install right hand fixation plate **no. 3** with rivets **no. 14** on luggage rack reinforcement.

With a punch, mark a hole on center of tubing at 14.5 mm (9/16 in) from end of luggage rack tubing (inside rack).

Drill tubing with a M6 (7/32 in) drill.

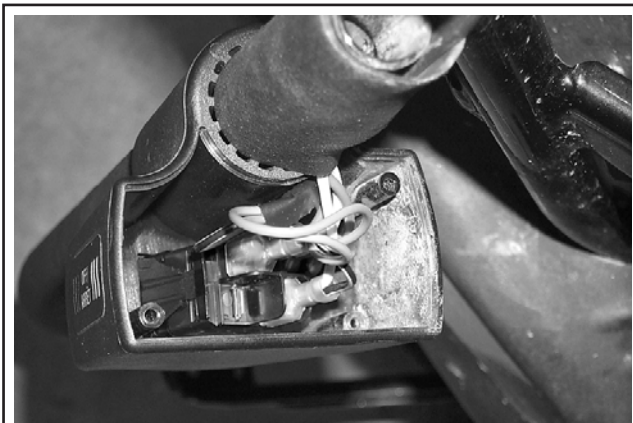
Insert pivot **no. 5** on right hand arm assembly **no. 1** and secure with a hexagonal socket head bolt **no. 7** and hexagonal elastic nut **no. 9**. Insert plastic flat washer **no. 8** between pivot and arm.

Insert pivot **no. 5** in tubing and secure it with hexagonal socket head bolt **no. 6**.

NOTE: The soldering of the upright may interfere with pivot. There may be necessary to grind the interior of the tubing to manage room to the pivot.

Adjust and secure arm using lever assembly **no. 13**, guide **no. 12**, outer spacer **no. 11** and spacer block **no. 10**.

Unsheathe wires from new arm and replace female terminals with new female terminals **no. 18**. Pay close attention to wire colors.

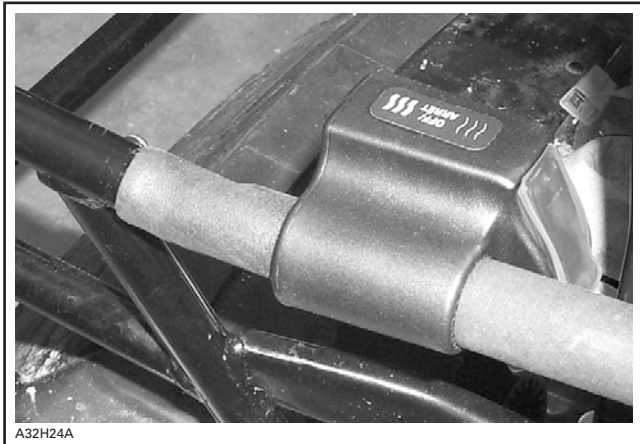


A32H23A

PAY CLOSE ATTENTION TO THE WIRE LOCATION

Close and screw cover.

Install handle grip sheath correctly.



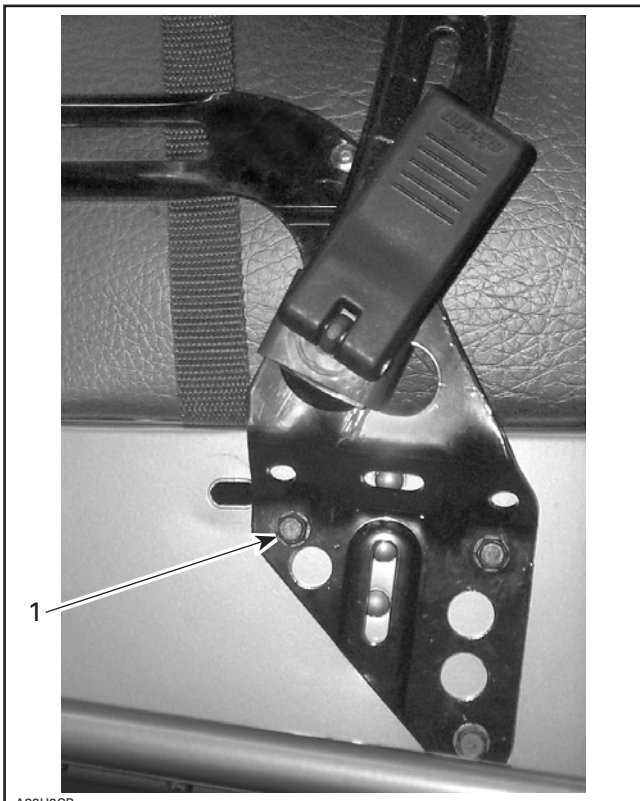
A32H24A

Reinstall hand protectors using black rivets **no. 15**.

Reinstall rear suspension.

Reinstall seat, rear mouldings and connectors.

On each side, drill the third hole of fixation plate and complete installation with a screw **no. 20**, a lock washer **no. 21** and an elastic nut **no. 22**.



A32H2CB

1. Drill and install third screw

Check handle grip heating system.

861 776 700

1.	511 000 182	Right Hand Arm Assembly	Poignée de maintien de droite (complète)
2.	511 000 183	Left Hand Arm Assembly	Poignée de maintien de gauche (complète)
3.	517 302 497	Right Hand Retaining Plate	Plaque de fixation de la poignée de droite
4.	517 302 499	Left Hand Retaining Plate	Plaque de fixation de la poignée de gauche
5.	517 302 494	Pivot (2)	Pivot (2)
6.	205 461 846	Hexagonal Socket Head Bolt M6 x 18 (2)	Boulon à tête creuse hexagonale M6 x 18 (2)
7.	205 061 644	Hexagonal Socket Head Bolt M6 x 16 (2)	Boulon à tête creuse hexagonale M6 x 16 (2)
8.	234 062 100	Plastic Flat Washer M6 (2)	Rondelle plate de plastique M6 (2)
9.	232 561 414	Hexagonal Elastic Nut (2)	Écrou hexagonal élastique (2)
10.	572 088 900	Spacer Block (2)	Entretoise (2)
11.	570 063 800	Outer Spacer (2)	Entretoise extérieure (2)
12.	517 290 000	Guide (2)	Guide (2)
13.	580 611 000	Lever Assembly (2)	Levier (complet) (2)
14.	390 403 600	Black Rivet 3/16 in (4)	Rivet noir 3/16 po (4)
15.	390 907 700	Black Rivet 3/16 in (4)	Rivet noir 3/16 po (4)
16.	409 010 800	Male Terminal (3)	Connecteur mâle (3)
17.	409 204 200	Male Housing	Raccord mâle
18.	409 010 700	Female Terminal (3)	Connecteur femelle (3)
19.	415 050 400	Handle Grip	Poignée
20.	210 261 680	Self-Tapping Flanged Hexagonal Screw (6)	Vis à tôle autotaraudeuse hexagonale à épaulement (6)
21.	234 161 601	Helicoid Lock Washer M6 (6)	Rondelle-frein hélicoïdale M6 (6)
22.	233 261 414	Elastic Flanged Nut M6 (2)	Écrou élastique à épaulement M6 (2)



**MIRROR KIT
(P/N 861 776 800)**

⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. This instruction sheet should be given to the purchaser. This kit is designed for specific applicable models only. It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately **0.5** hour.

Following illustration shows retaining plate installed:

PARTS TO BE INSTALLED

Kit, (not illustrated), consists of:

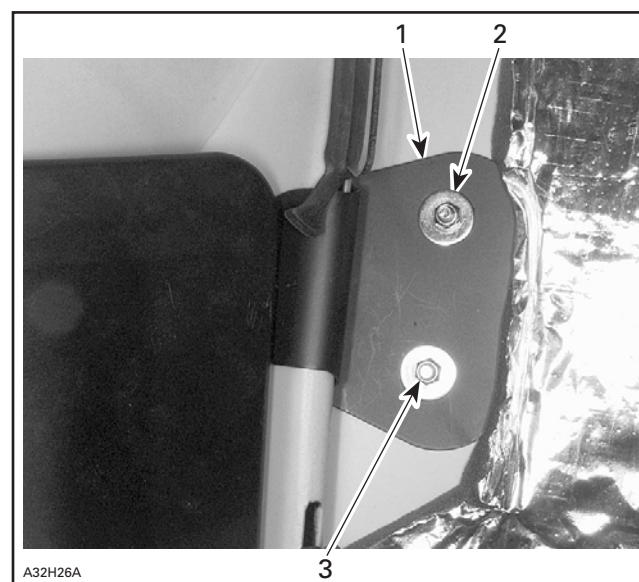
1. Mirror Assembly (RH) (P/N 517 302 471)
2. Mirror Assembly (LH) (P/N 517 302 472)
3. Flat Washer (4) (P/N 517 124 300)
4. Elastic Stop Nut (4) (P/N 232 541 414)
5. Retaining Plate (2) (P/N 517 302 539)

INSTRUCTIONS

Use template at the end of the present instruction sheet to locate and drill the two 5 mm (13/64 in) holes.

Install right side mirror **no. 1** on the outside and retaining plate **no. 5** on the inside and secure from underneath with flat washers **no. 3** and elastic stop nuts **no. 4**.

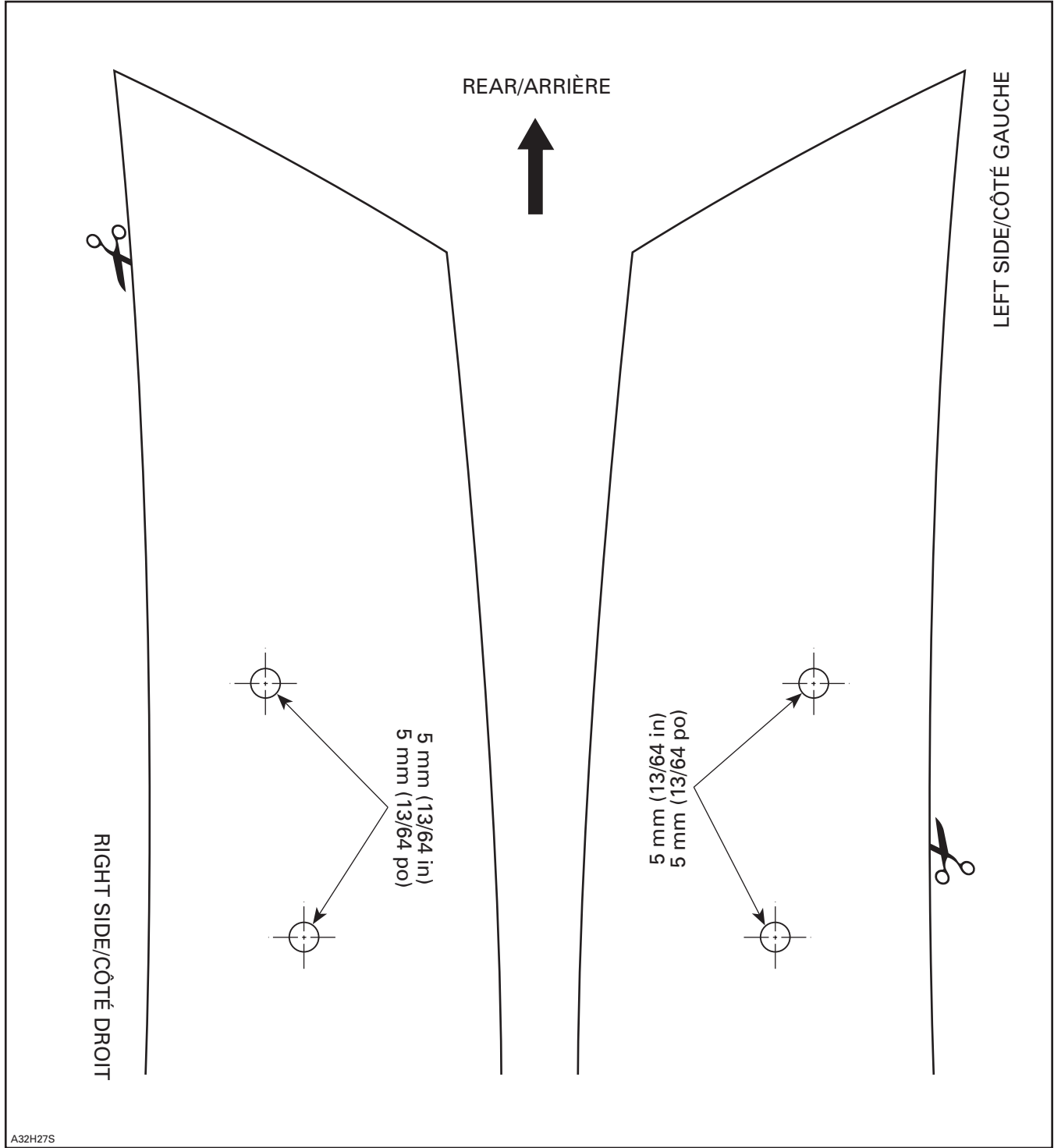
Repeat procedure with left side mirror **no. 2**.



1. Retaining plate
2. Flat washer
3. Elastic stop nut

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TEMPLATES



A32H27S

861 776 800

1.	517 302 471	Mirror Assembly RH	Rétroiseur droit (complet)
2.	517 302 472	Mirror Assembly LH	Rétroiseur gauche (complet)
3.	517 124 300	Flat Washer (4)	Rondelle plate (4)
4.	232 541 414	Elastic Stop Nut (4)	Écrou d'arrêt élastique (4)
5.	517 302 539	Retaining Plate (2)	Plaque de retenue (2)



ADJUSTABLE WINDSHIELD
(P/N 861 777 300)

⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. This instruction sheet should be given to the purchaser. This kit is designed for specific applicable models only. It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately **0.4** hour.

PARTS TO BE INSTALLED
(not illustrated)

1. Windshield
2. Stud (10)
3. Push Nut (10)
4. Washer (10)
5. Handle Assembly (RH)
6. Handle Assembly (LH)
7. Plate Assembly (RH)
8. Plate Assembly (LH)
9. Screw (2)

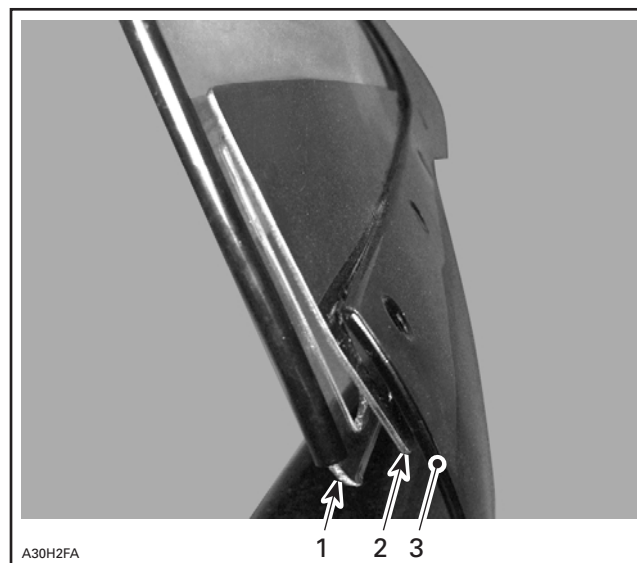
PROCEDURE

Lift hood and remove existing windshield by removing all retaining latches.

Deposit windshield on a piece of carboard on a working bench.

Separate windshield from its base by removing all retaining studs and push nuts.

Align new windshield **no. 1** with base and insert both right and left plates, **no. 7** and **no. 8**, between windshield and base, with their felt surface on windshield. Refer to following photo.

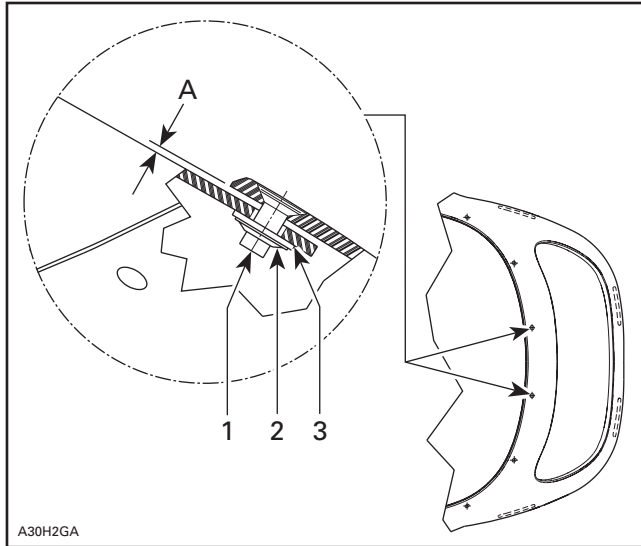


RIGHT SIDE SHOWN

1. Windshield **no. 1**
2. Plate **no. 7**
3. Base

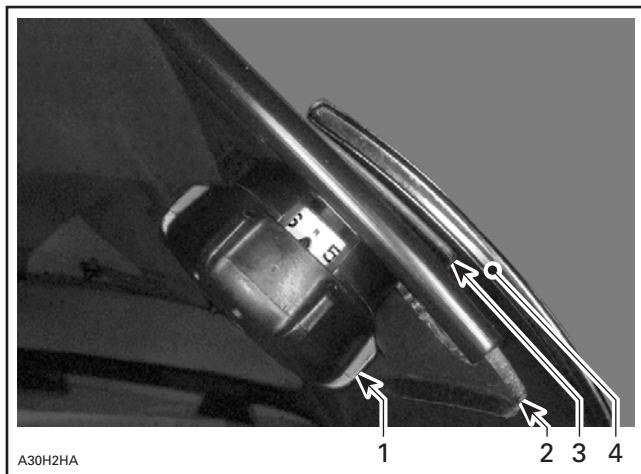
Secure windshield to base using supplied studs **no. 2**, washers **no. 4** and push nuts **no. 3**.

For the 2 most forward studs, when pressing the push nuts, leave a gap of 1 to 2 mm (3/64 to 5/64 in) between windshield and base to follow upward and downward movement of windshield; this gap should be allowed while windshield is in its full downward position. Refer to following illustration.



1. Stud **no. 2**
2. Push nut **no. 3**
3. Washer **no. 4**
- A. 1 to 2 mm (3/64 to 5/64 in)

Select proper handle for proper side by looking in position selection window: before or after position 5 a small letter R or L identifies the handle side. Refer to following photo.



RIGHT SIDE SHOWN

1. Handle **no. 5**
2. Windshield **no. 1**
3. Plate **no. 7**
4. Base

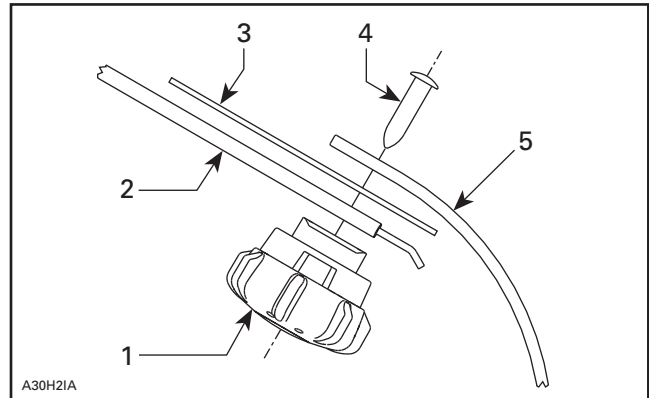
Identify right side handle and start with that one.

Gently block handles in a vise to raise selection to number 10 (fully lifted); make sure you've identified which is right side and which is left side.

Install right side handle, **no. 5**, from the inside, while holding base and windshield so to reach the fully lifted position.

Handle goes in one way only.

Secure handle from the outside using screw **no. 9**; tighten screw from 2 to 2.5 N•m (18 to 22 lbf•in). Refer to following illustration.



RIGHT SIDE SHOWN

1. Handle **no. 5**
2. Windshield **no. 1**
3. Plate **no. 7**
4. Screw **no. 9**
5. Base

Repeat procedure with left side handle **no. 6**.

Reinstall windshield in its position and retain with previously removed latches.

Clean windshield and its base.

Installation is now complete.

861 777 300

1.	517 302 480	Windshield	Pare-brise
2.	517 302 264	Stud (10)	Goujon (10)
3.	732 610 072	Push Nut (10)	Écrou à pression (10)
4.	517 302 265	Washer (10)	Rondelle (10)
5.	517 302 360	Handle Assembly (RH)	Poignée de droite (complet)
6.	517 302 361	Handle Assembly (LH)	Poignée de gauche (complet)
7.	517 302 509	Plate Assembly (RH)	Plaque de droite (complet)
8.	517 302 510	Plate Assembly (LH)	Plaque de gauche (complet)
9.	250 000 031	Screw (2)	Vis (2)



MIRROR KIT
(P/N 861 777 600)

⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. This instruction sheet should be given to the purchaser. This kit is designed for specific applicable models only. It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 0.5 hour.

PARTS TO BE INSTALLED

Kit, (not illustrated), consists of:

1. Mirror Assembly (RH) (P/N 517 302 067)
2. Mirror Assembly (LH) (P/N 517 302 068)

INSTRUCTIONS

Use template at the end of the present instruction sheet to locate and drill the two 5 mm (13/64 in) holes.

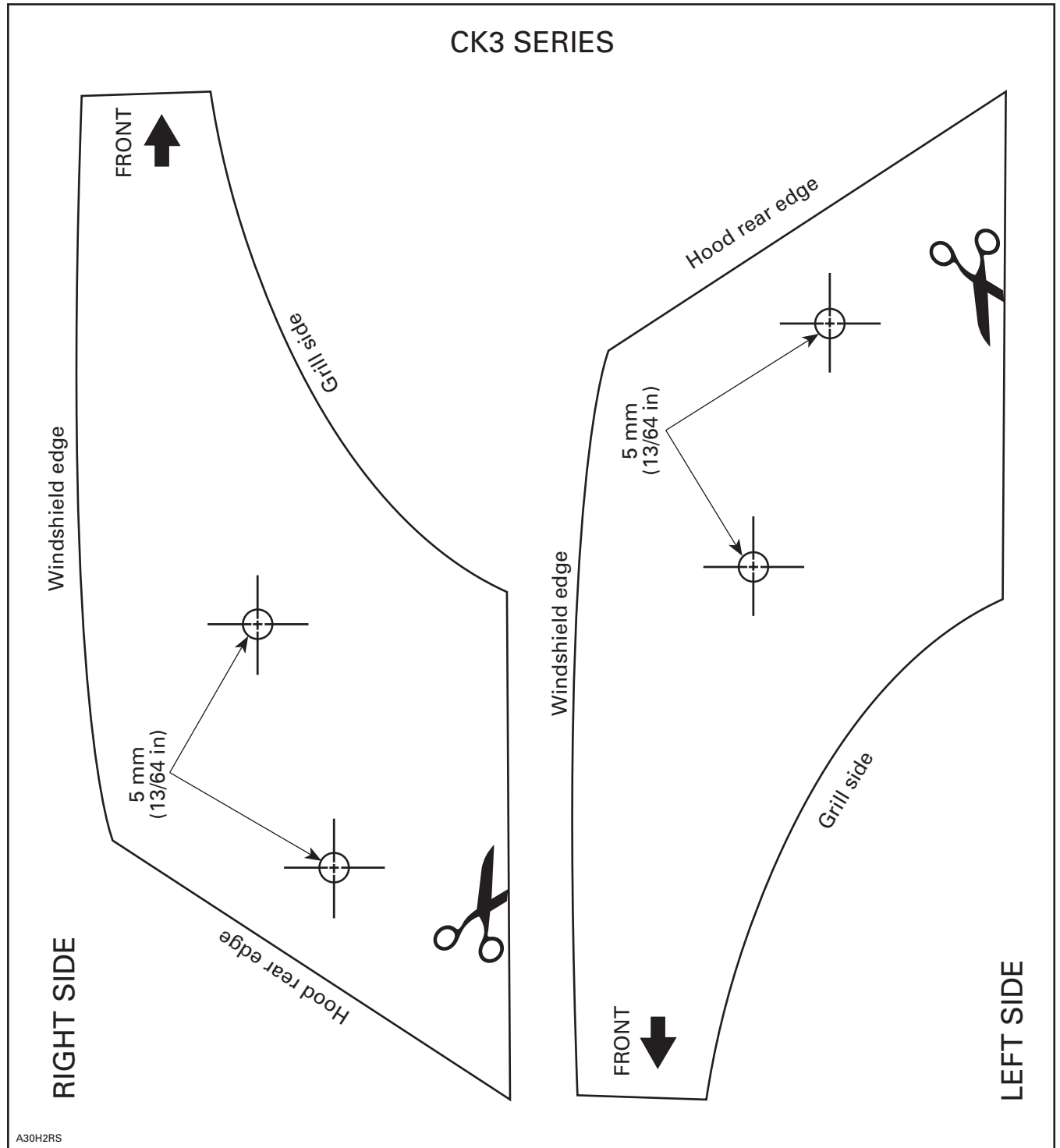
Remove flat washers and elastic stop nuts from underneath mirror assembly.

Install mirror and secure from underneath with flat washers and elastic stop nuts.

Repeat procedure for both sides.

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TEMPLATE





**SUPER COOLER KIT
(P/N M5146062)**

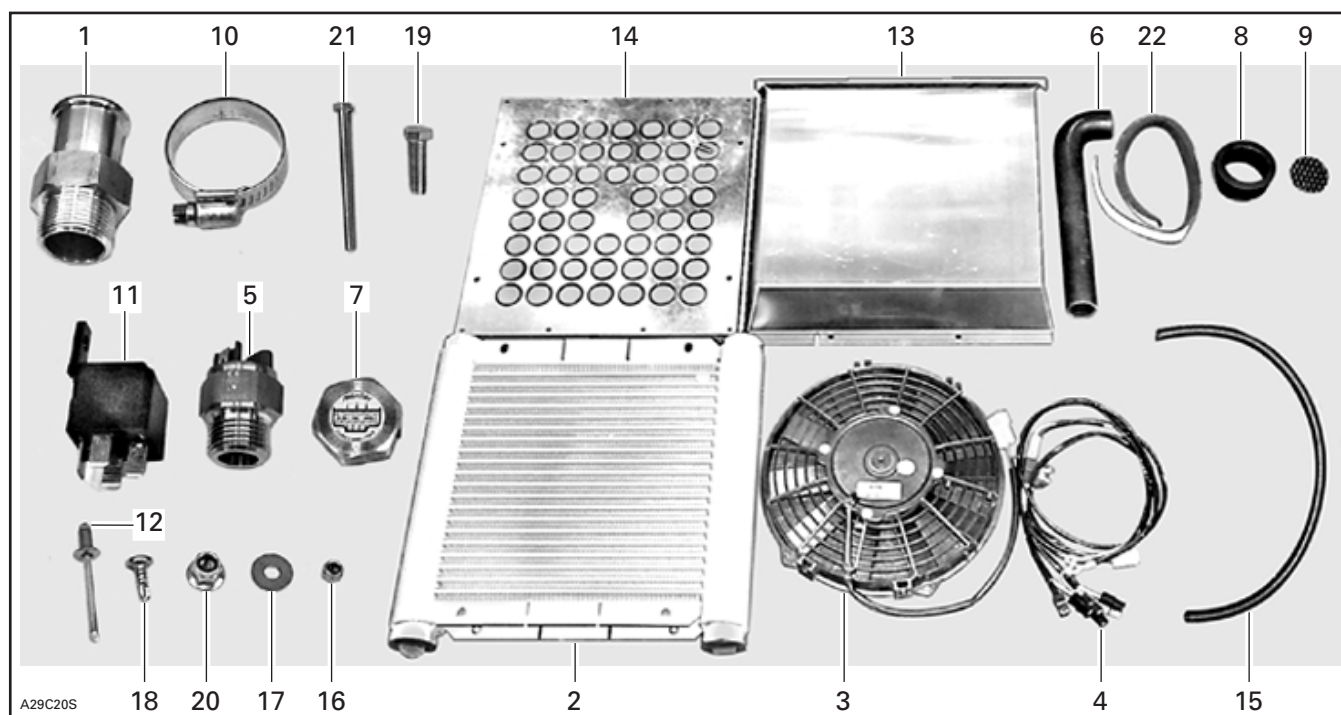
⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. Torque wrench tightening specifications must strictly be adhered to; refer to table at the end of this document. This instruction sheet should be given to the purchaser.

This kit is designed for specific applicable models only (your authorized Ski-Doo snowmobile dealer will confirm models). It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 4.0 hour.

PARTS TO BE INSTALLED



- | | |
|------------------------------|---|
| 1. Hose Joint (2) | 14. Protective Plate |
| 2. Radiator | 15. Protector Tubing (0.5 m (20 in)) |
| 3. Axial Fan | 16. M4 Flanged Elastic Nut (4) |
| 4. Wiring Harness | 17. M4 Flat Washer (4) |
| 5. Sensor | 18. Self-Tapping Screw (4) |
| 6. Hose (2) | 19. M6 x 20 Hexagonal Screw (4) |
| 7. Aluminum Plug with Gasket | 20. M6 Flanged Elastic Nut (4) |
| 8. Tube (4) | 21. M4 x 50 Hexagonal Screw (4) |
| 9. Grill (4) | 22. Gasket (0.5 m (20 in)) |
| 10. Gear Clamp (2) | 23. M5 x 20 Hexagonal Screw (not illustrated) |
| 11. Relay | 24. M5 Flat Washer (not illustrated) |
| 12. Rivet (8) | 25. M5 Flanged Elastic Nut (not illustrated) |
| 13. Cover Plate | |

INSTRUCTION

Open seat.

Remove tool box bracket.

Starting from most forward outer rivet of original right side radiator hose adapter, draw a 490 mm (19-9/32 in) line toward rear, parallel to side wall and 90 mm (3-1/2 in) away from it.

At that point, draw a 260 mm (10-15/64 in) line toward right side at a 90° angle.

At that point, draw a 230 mm (9-1/16 in) line toward front at a 90° angle.

At that point, rejoin first line drawn toward left side, at a 90° angle.

Cut the rectangle given by all these lines.

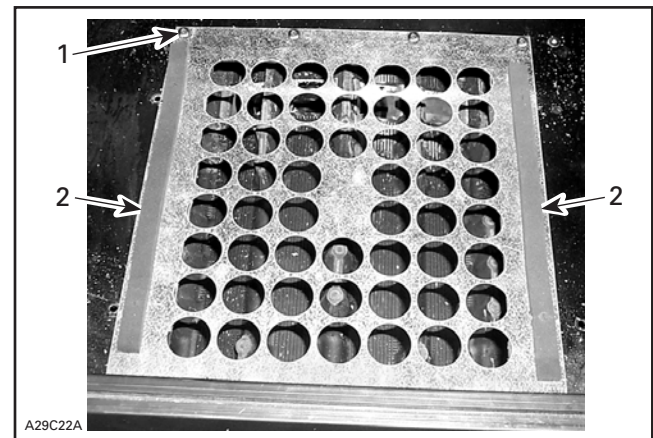


Install protective plate **no. 14** and drill four 4.8 mm (3/16 in) holes on right side and four 4.8 mm (3/16 in) holes on left side using protective plate as template.

Secure protective plate with rivets **no. 12**.

Again using protective plate as template, drill 2 forward and 2 rear holes through frame with a M6 drill.

Cut gasket **no. 22** in half, stick both halves on protective plate and pierce gasket at forward and rearward holes, as shown in next photo.



1. Rivets (4 on each side)
2. Gaskets (2)

Install axial fan **no. 3** onto radiator **no. 2** using M4 x 50 hexagonal screws **no. 21**, M4 flat washers **no. 17** on screw head side and M4 flanged elastic nuts **no. 16**.

CAUTION: Open the holes between radiator segments for the retaining screws with a screwdriver taking care not to damage segments.

Remove red plastic plugs and install hose joints **no. 1** onto radiator after having applied teflon tape or Loctite[†] Pipe Sealant with Teflon (Loctite 592, P/N 293 800 018) onto joints threads.

Remove yellow plastic plugs and install temperature sensor **no. 5** and aluminum plug with gasket **no. 7** onto radiator after having applied teflon tape or Loctite Pipe Sealant with Teflon (Loctite 592, P/N 293 800 018) onto their threads.

Remove both rear suspension rear arm M10 x 30 socket screws and lift rear of vehicle so suspension stays on the ground; this will ease radiator installation.

Secure radiator to frame through protective plate using M6 x 20 hexagonal screws **no. 19**, head underneath frame, and M6 flanged elastic nuts **no. 20**.

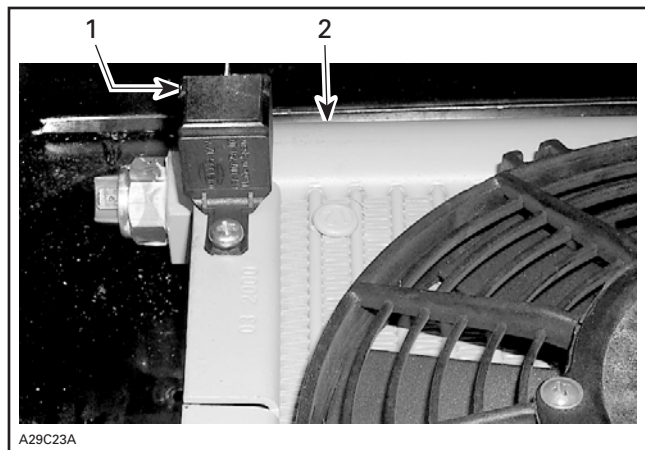
Lower rear of vehicle until tunnel holes align with rear suspension rear arm and secure using previously removed M10 x 30 socket screws.

Fasten relay **no. 11** to radiator bracket, using M5 x 20 hexagonal screw **no. 23**, M5 flat washer **no. 24** and M5 flanged elastic nut **no. 25**.

[†] Loctite[®] is a trademark of Loctite Corporation.

Plug relay to harness wires **no. 4** according to the following:

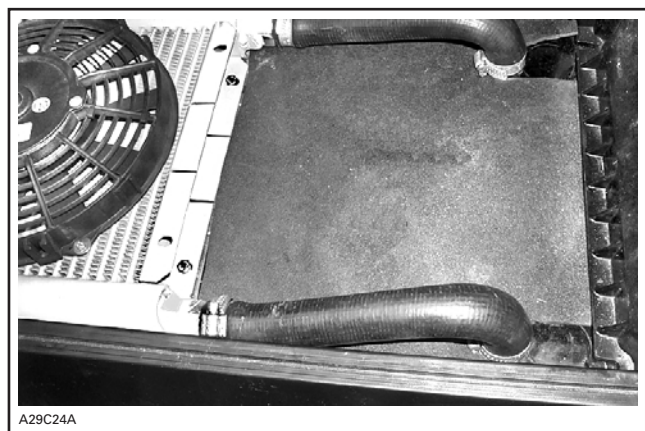
WIRE COLOR	TERMINAL NO.
Red	1 and 5
Blue	2
White	3



1. Relay
2. Radiator

Before proceeding with next operation, drain anti-freeze from system and keep it to be reused.

Remove and discard existing hose, install and secure hoses **no. 6** onto radiator with gear clamps **no. 10** and with gear clamps taken from already existing hose. Cut hoses at the right length.



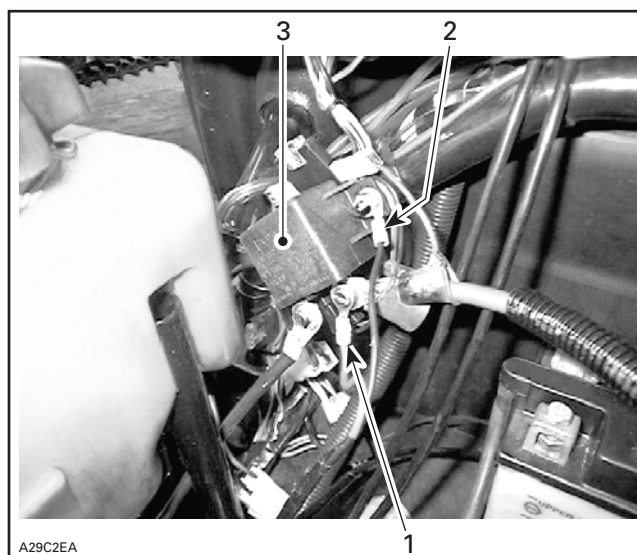
Cover wiring harness **no. 4** with protector tubing **no. 15** and connect same to sensor.

Remove air intake and battery.

Using a metal wire as a fish-wire, pull wiring harness under fuel tank.

On 1998 thru 2000 Models

Plug wires on starter relay as per next photo.



1. RED positive wire
2. BLACK negative wire
3. Starter relay

On Models Later than 2000

Connect to battery poles (RED wire on positive terminal and BLACK wire on negative terminal).

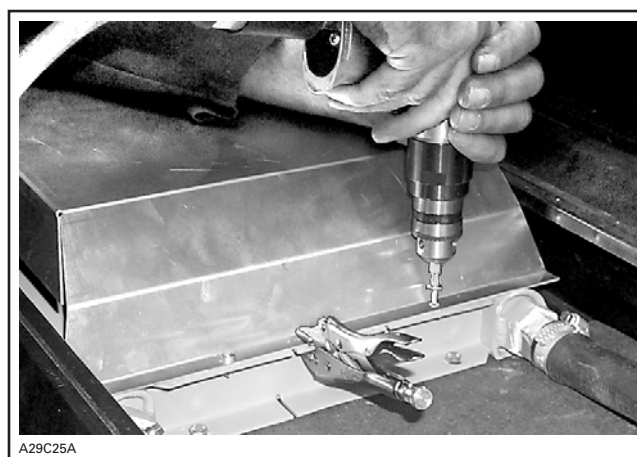
WARNING

Always connect the battery cables exactly in the specified order. Connect RED positive cable first, then BLACK negative ground cable.

All Models

Reinstall battery and air intake silencer.

Install cover plate **no. 13** using self-tapping screws **no. 18**.



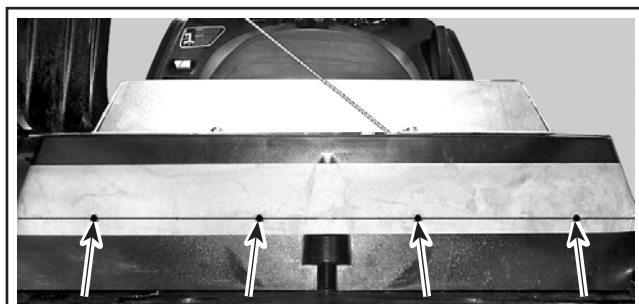
The following operation requires to locate the true center height of seat box rear wall. True center should be around 50 mm or 2 in.

Measure wall height of seat box and draw an horizontal line at its true center. Note this measure and transfer it on seat.

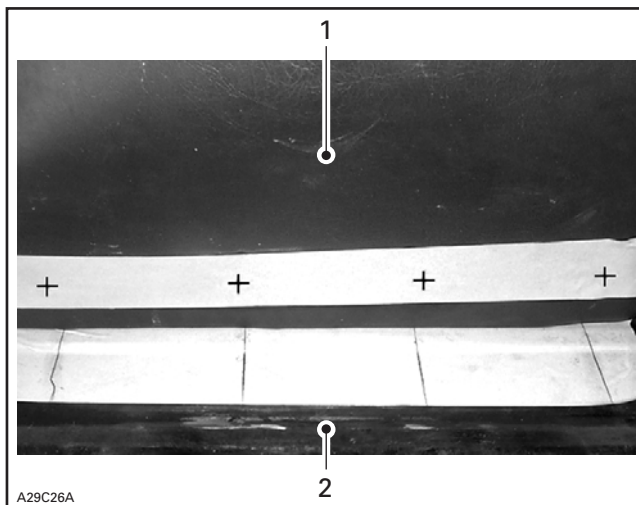
Measure wall length and draw 4 equidistant lines.

True hole center is where equidistant lines meet with horizontal line.

Drill 4 preholes through seat box.



Repeat measuring and drilling procedure for seat.



HOLE POSITIONS ON SEAT

Masking tape can be used to help marking

1. Seat
2. Tunnel

Drill four 57 mm (2-1/4 in) holes in seat box and then, four same size holes in seat, in line with seat box holes, taking care not to damage seat cover which requires four holes of 30 mm (1-3/16 in) only.



A29C28A

SEAT



A29C29A

SEAT BOX

Insert grills no. 9 into tubes no. 8 and push tubes in seat holes starting from the outside and snap tubes in place. A little flat screwdriver may be very useful to complete this step.



A29C2AA

TUBE IN PLACE — SEEN FROM INSIDE SEAT

Refill system with coolant, and bleed air.
Check Super Cooler operation.
Installation is now complete.

The following table is to be consulted if and when a tightening torque is required but not specified.

Bold face size indicates nominal value (mean value).

N•m	FASTENER SIZE (8.8 GRADE)	Lbf•in
2	M4	18
3	M4	27
4	M5	35
8	M6	71
9	M6	80
10	M6	89
11	M6	97
12	M6	106

N•m	FASTENER SIZE (8.8 GRADE)	Lbf•ft
21	M8	15
22	M8	16
23	M8	17
24	M8	18
25	M8	18
43	M10	32
44	M10	32
45	M10	33
46	M10	34
47	M10	35
48	M10	35
49	M10	36
50	M10	37
51	M10	38
52	M10	38
53	M10	39
76	M12	56
77	M12	57
78	M12	58
79	M12	58
80	M12	59

N•m	FASTENER SIZE (8.8 GRADE)	Lbf•ft
81	M12	60
82	M12	60
83	M12	61
84	M12	62
121	M14	89
122	M14	90
123	M14	91
124	M14	91
125	M14	92
126	M14	93
127	M14	94
128	M14	94
129	M14	95
130	M14	96
131	M14	97
132	M14	97
133	M14	98
134	M14	99
135	M14	100
136	M14	100
137	M14	101
138	M14	102
139	M14	103
140	M14	103
141	M14	104
142	M14	105
143	M14	105
144	M14	106
145	M14	107
146	M14	108
147	M14	108
148	M14	109
149	M14	110
150	M14	111

M5146062

1.	M5346063	Hose Joint (2)	Raccord de boyau (2)
2.	M48229	Radiator	Radiateur
3.	M42091	Axial Fan	Ventilateur axial
4.	M5346065	Wiring Harness	Faisceau de fils
5.	M42219	Sensor	Sonde
6.	M5346067	Hose (2)	Boyau (2)
7.	M48230	Aluminum Plug with Gasket	Bouchon en aluminium avec joint d'étanchéité
8.	M5346226	Tube (4)	Tube (4)
9.	M5346235	Grill (4)	Grille (4)
10.	408 800 400	Gear Clamp (2)	Collier de serrage (2)
11.	M42089	Relay	Relais
12.	M36083	Rivet (8)	Rivet (8)
13.	M5246250	Cover Plate	Plaque-couvercle
14.	M5246236	Protective Plate	Plaque de protection
15.	M28012	Protector Tubing (0.5 m (20 in))	Tube protecteur (0.5 m (20 po))
16.	M33035	M4 Flanged Elastic Nut (4)	Écrou élastique à épaulement M4 (4)
17.	M20001	M4 Flat Washer (4)	Rondelle plate M4 (4)
18.	M40182	Self-Tapping Screw (4)	Vis autotaraudeuse (4)
19.	207 162 044	M6 x 20 Hexagonal Screw (4)	Vis hexagonale M6 x 20 (4)
20.	M33200	M6 Flanged Elastic Nut (4)	Écrou élastique à épaulement M6 (4)
21.	M40203	M4 x 50 Hexagonal Screw (4)	Vis hexagonale M4 x 50 (4)
22.	M39013	Gasket (0.5 m (20 in))	Joint d'étanchéité (0.5 m (20 po))
23.	M40156	M5 x 20 Hexagonal Screw	Vis hexagonale M5 x 20
24.	M20008	M5 Flat Washer	Rondelle plate M5
25.	M33009	M5 Flanged Elastic Nut	Écrou élastique à épaulement M5



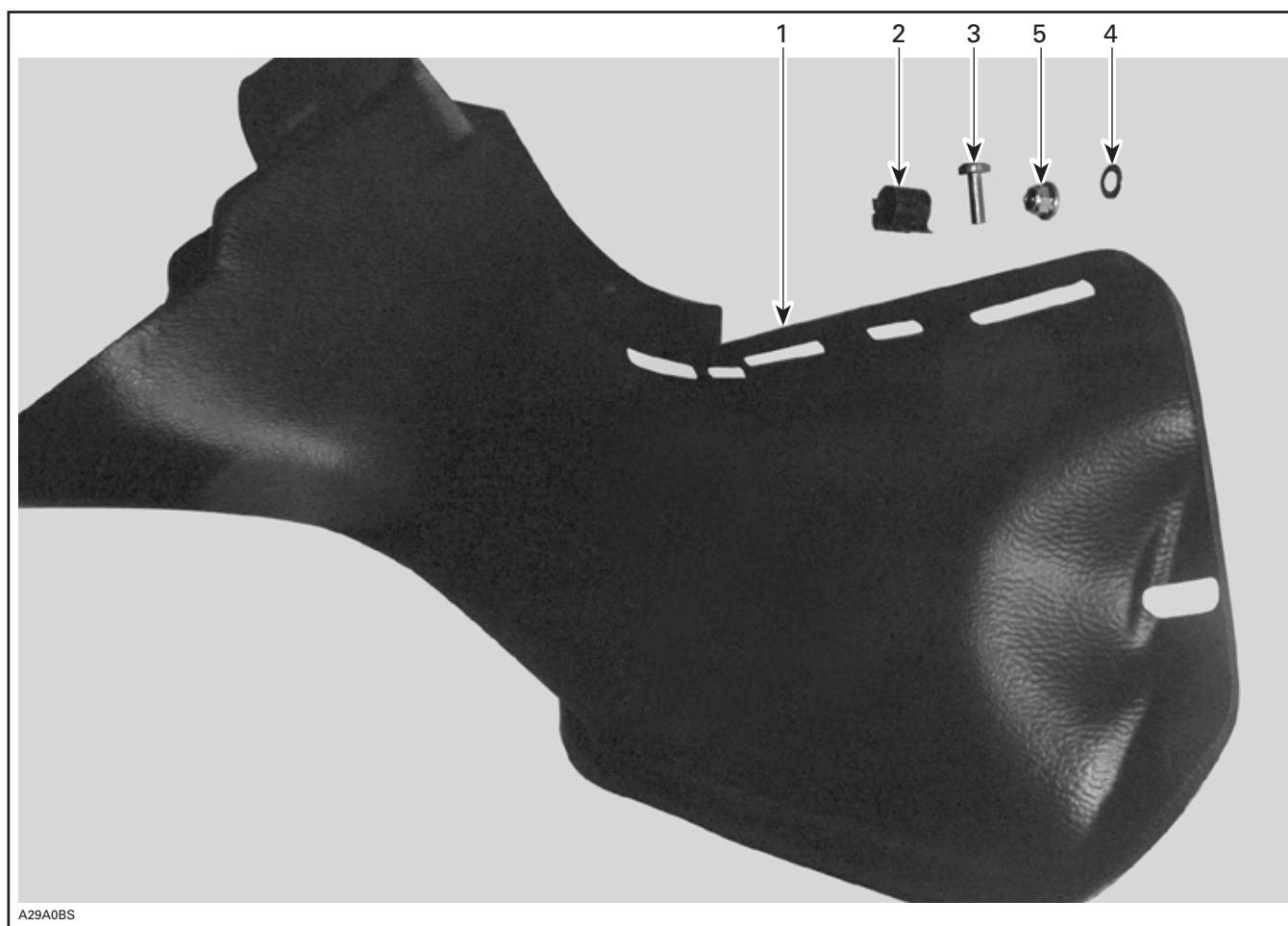
**AIR DUCT KIT
(P/N M5246647)**

⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. This instruction sheet should be given to the purchaser. This kit is designed for specific applicable models only. It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately **0.3** hour.

PARTS TO BE INSTALLED



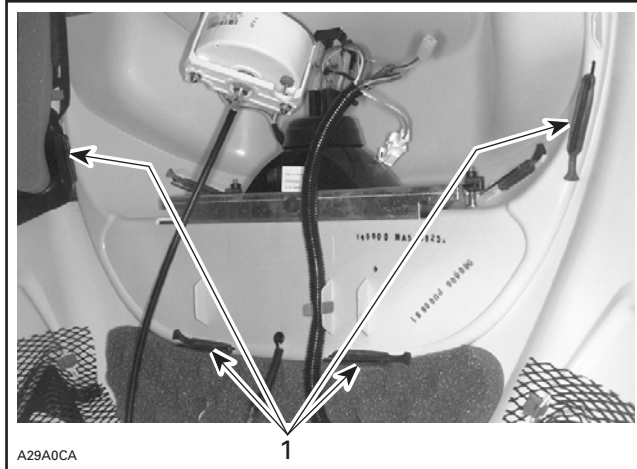
1. Air Duct
2. Clip (6)
3. Screw (3)
4. Flat Washer (3)
5. Flanged Elastic Nut (3)

INSTRUCTION

Lift hood.

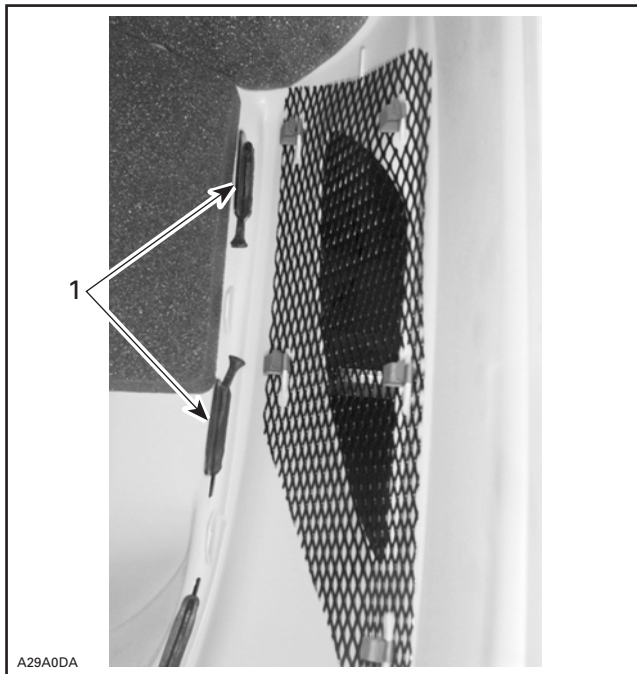
Remove 4 rubber latches retaining headlamp moulding and remove headlamp moulding.

Remove 2 rubber latches retaining right side of windshield. Note that windshield does not need removal. Refer to following photos.



A29A0CA

1. Remove these rubber latches



A29A0DA

1. Remove these rubber latches

Using a small screwdriver, remove wiring harness retaining clip taking care not to scratch console. Refer to following photo.

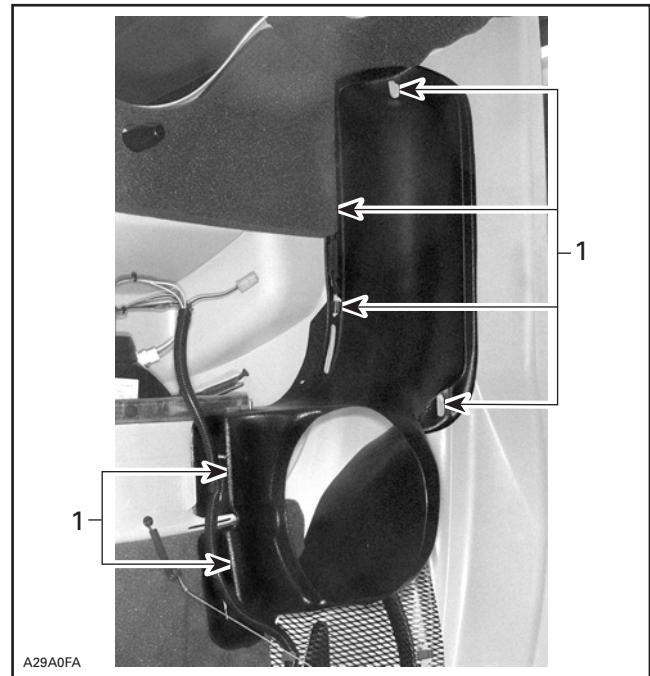


A29A0EA

1. Remove this clip

Install air duct **no. 1** starting at the 2 removed windshield rubber latches and align air duct all along, pushing it onto hood tabs.

Press all supplied clips **no. 2** at their position. Refer to following photo.



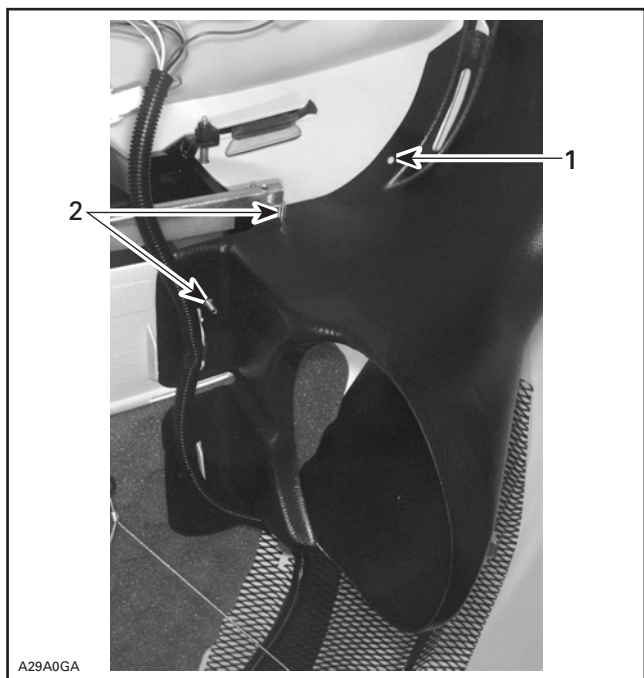
A29A0FA

1. Press clips here

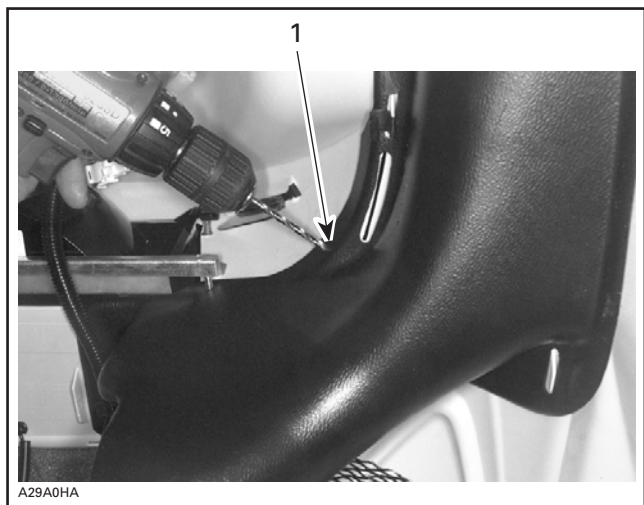
Install previously removed windshield rubber latches.

Insert from the outside of the hood, and through the 2 existing holes that align, a screw **no. 3** and a flat washer **no. 4** and secure them from the inside with a flanged elastic nut **no. 5**.

For the third hole, drill a 5.2 mm (13/64 in) hole through hood taking care not to damage hood any further. Use hole in air duct as template.



1. Drill hole here
2. Screws in existing holes



1. Drill hole here

Secure with third screw **no. 3** with a flat washer **no. 4** and a flanged elastic nut **no. 5**.

Secure wiring harness with its original clip.

Install headlamp moulding and secure it with its 4 rubber latches.

Close hood.

Installation is now complete.

M5246647

1.	M5246991	Air Duct	Conduit d'air
2.	M21081	Clip (6)	Pince de retenue (6)
3.	M40247	Screw (3)	Vis (3)
4.	234 051 410	Flat Washer (3)	Rondelle plate (3)
5.	M33062	Flanged Elastic Nut (3)	Écrou élastique à épaulement (3)



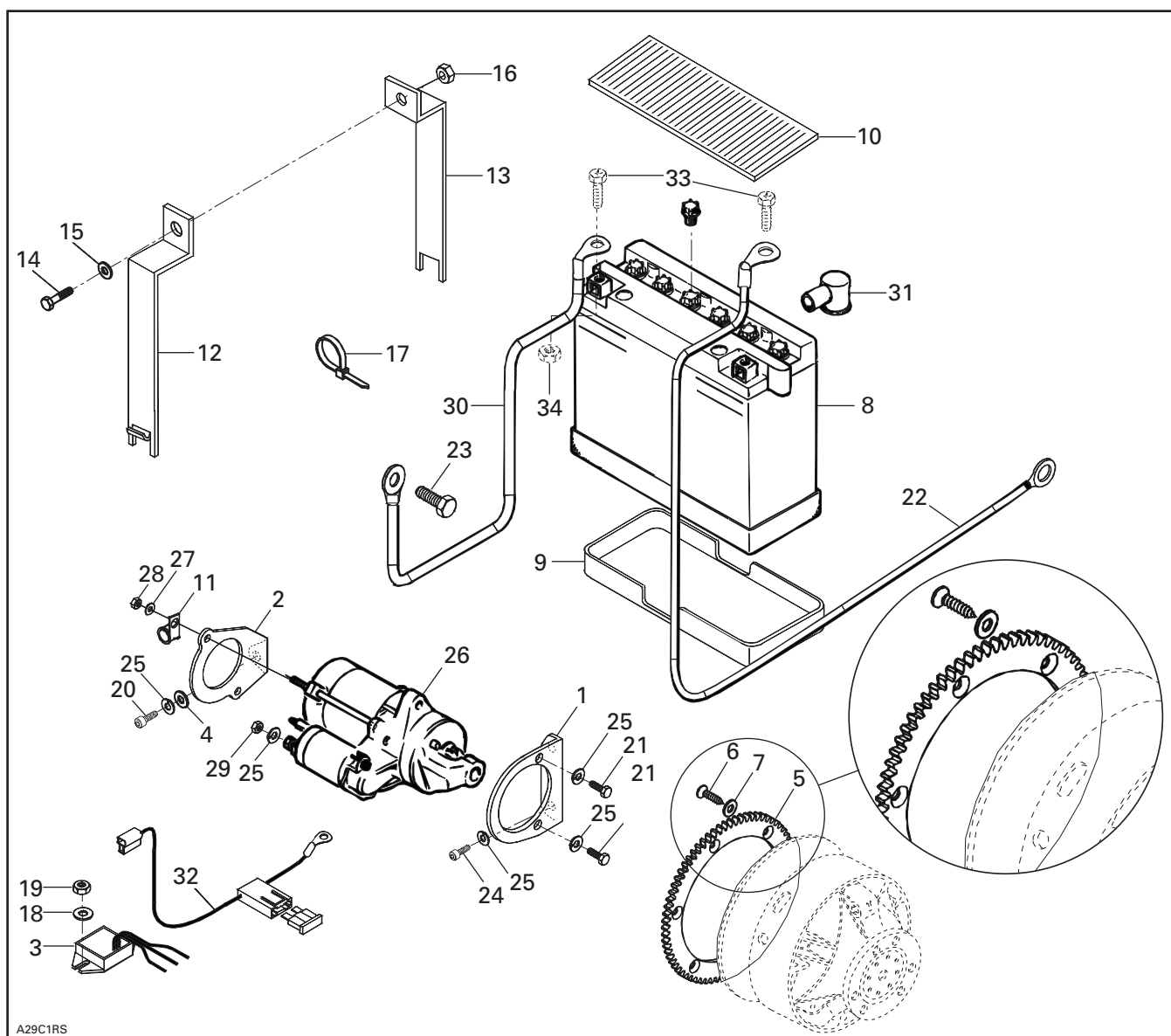
**ELECTRIC STARTER KIT
(P/N M5346624)**

⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. This instruction sheet should be given to the purchaser. This kit is designed for specific applicable models only. It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 1.5 hours.

PARTS TO BE INSTALLED



1. Starter Support PTO Side
2. Starter Support MAG Side
3. Regulator/Rectifier
4. Thin Flat Washer M8
5. Ring Gear
6. Self-Tapping Screw (6)
- 7. Thick Flat Washer M8 (6)**
8. Battery
9. Battery Seat
10. Rubber Strip
11. Clamp (2)
12. Front Battery Steel Strap
13. Rear Battery Steel Strap
14. Hexagonal Screw M6 x 30
15. Flat Washer M6
16. Flanged Elastic Nut
17. Locking Tie (6)
18. Flat Washer M6 (2)
19. Flanged Elastic Nut M6 (2)
20. Allen Screw M8 x 16
21. Hexagonal Screw M8 x 20 (2)
22. RED Battery Positive Cable
23. Self-Tapping Hexagonal Screw M6 x 12
24. Allen Screw M8 x 20 (2)
25. Lock Washer M8 (6)
26. Starter
27. Flat Washer M5 (2)
28. Flanged Elastic Nut M5 (2)
29. Hexagonal Nut M8
30. BLACK Battery Ground Cable
31. Protector Cap (2)
32. Fuse Wiring Harness
33. Hexagonal Screw (2) (supplied in battery box)
34. Hexagonal Nut (2) (supplied in battery box)
35. Battery Vent Tube (not illustrated)
(supplied in battery box)

INSTRUCTIONS

Battery Preparation

Before beginning electric starter installation, battery must be charged. Refer to appropriate *Shop Manual* for proper procedure.

WARNING

Never charge or boost battery while connected or installed in vehicle.

Vehicle Preparation

Remove tuned pipe, muffler, belt guard, drive belt and air intake silencer.

While lifting air intake silencer, turn carburetor sideways for easier removal.

Block carburetor inlet to avoid particles from falling in it.

Remove both drive and driven pulleys.

Refer to appropriate *Shop Manual* to perform drive pulley removal procedure.

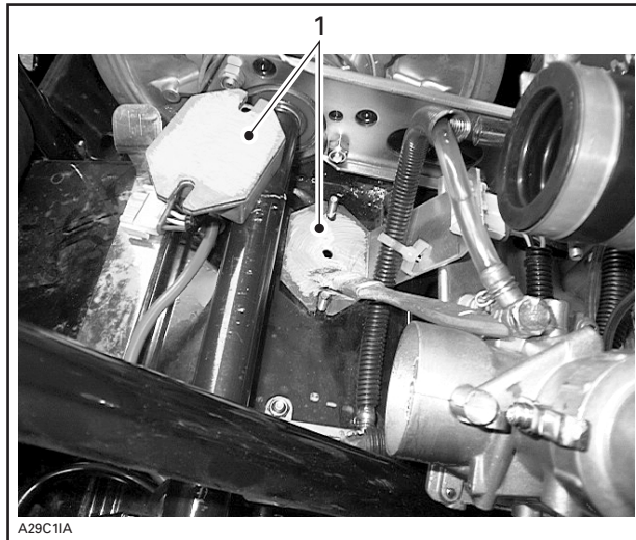
More space to maneuver will be obtained by removing bottom pan retaining screws on pulley side. Refer to following photo.



1. Remove these screws

Regulator/Rectifier

Remove original voltage regulator, located on left side just in front of countershaft. Apply lithium grease between regulator/rectifier **no. 3** and plate. Refer to following photo.



1. Grease applied

Secure regulator/rectifier on both sides with M6 flanged elastic nuts **no. 19** and M6 flat washers **no. 18** making sure ground wire is on pulley side. Tighten at 8 N•m (71 lbf•in).

Apply silicone dielectric grease (P/N 293 550 004) in regulator/rectifier connector and then connect it to same connector.

Ring Gear

Secure ring gear **no. 5** on inner half using self-tapping screws **no. 6** and **thick M8 flat washers no. 7**. Apply Loctite[†] 271 (red) on screw threads and between screw heads and thick flat washers.

NOTE: It is of the utmost importance to use thick flat washers no. 7 with self-tapping screws no. 6 in order not to pierce inner half with the screws.

CAUTION: Loctite 271 (red) must be applied to safely assemble ring gear.

Torque screws in a criss-cross sequence to 27 N•m (20 lbf•ft).

Do not reinstall drive pulley at this time.

Electric Starter

CAUTION: Apply Loctite 271 (red) on all fastener threads of starter supports.

Install starter support PTO side **no. 1** to engine using M8 x 20 allen screws **no. 24** and M8 lock washers **no. 25**. Tighten firmly.

Install electric starter **no. 26** on support, bottom bolt first and secure it using M8 x 20 hexagonal screws **no. 21** and M8 lock washers **no. 25**.

Install M5 flat washers **no. 27** over nuts of starter through bolts.

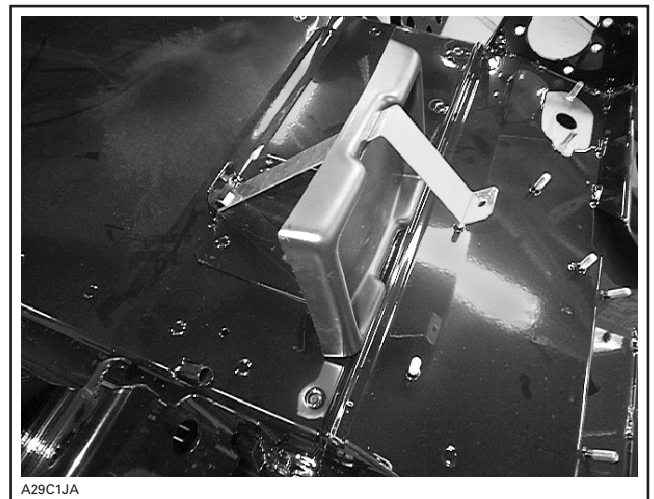
Install starter support MAG side **no. 2** on starter, insert clamp **no. 11** on lower through bolt, and secure with M5 flanged elastic nuts **no. 28**.

Secure support to engine with M8 x 16 allen screw **no. 20**, thin M8 flat washer **no. 4** and M8 lock washer **no. 25**.

Battery and Rack

Remove 2 screws retaining oil reservoir and push reservoir a little forward.

Insert rear battery steel strap **no. 13** through slot in battery seat **no. 9**. Refer to following photo.



INSERTING REAR BATTERY STRAP IN SEAT SLOT

Properly clip battery seat at its place while hooking rear steel strap onto its bracket.

Install hexagonal nuts **no. 34** and hexagonal screws **no. 33** at battery posts and then, install battery **no. 8**, that you have previously charged, on its seat.

Install front battery steel strap **no. 12** taking care to properly hook it onto its bracket. Place rubber strip **no. 10** onto battery and close both steel straps together securing them with M6 x 30 hexagonal screw **no. 14**, M6 flat washer **no. 15** and flanged elastic nut **no. 16**.

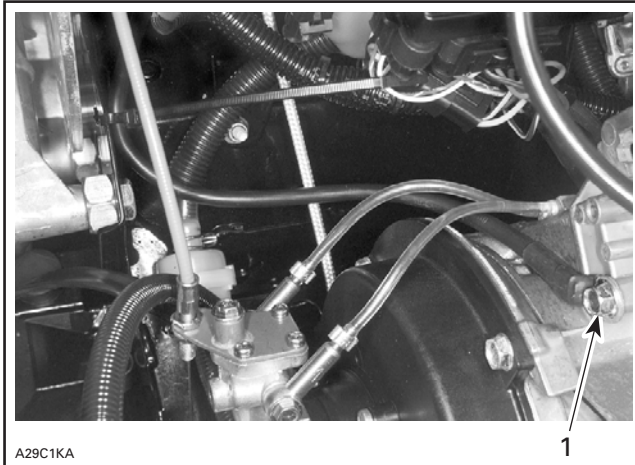
Install vent tube **no. 35** on right side of battery and let tube bottom end hanging loose so it won't kink.

[†] Loctite is a registered trademark of Loctite Corporation

NOTE: Ensure that existing wire going to fuel tank is lifted in order not to be caught under battery seat; when battery installation is completed, be sure wire moves freely behind battery.

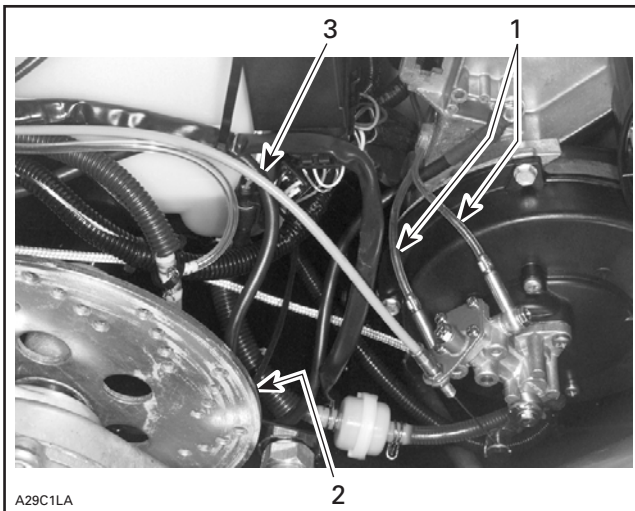
Wire/Cable Connections and Routing

Secure BLACK battery ground cable **no. 30** onto engine using M6 x 12 self-tapping hexagonal screw **no. 23** as per following photo.



1. Ground cable secured to engine

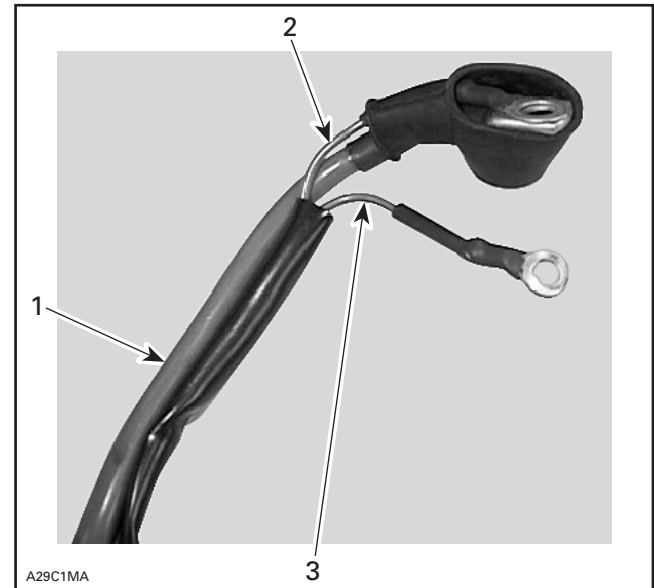
Route ground cable toward battery, passing underneath oil pump lines, attaching it to transmission forward bracket hole with a locking tie **no. 17** and bringing it upward, underneath clamp at oil reservoir screw.



1. Underneath oil pump lines
2. Attached to transmission forward bracket hole
3. Going toward oil reservoir screw

Start installing RED battery positive cable at solenoid end.

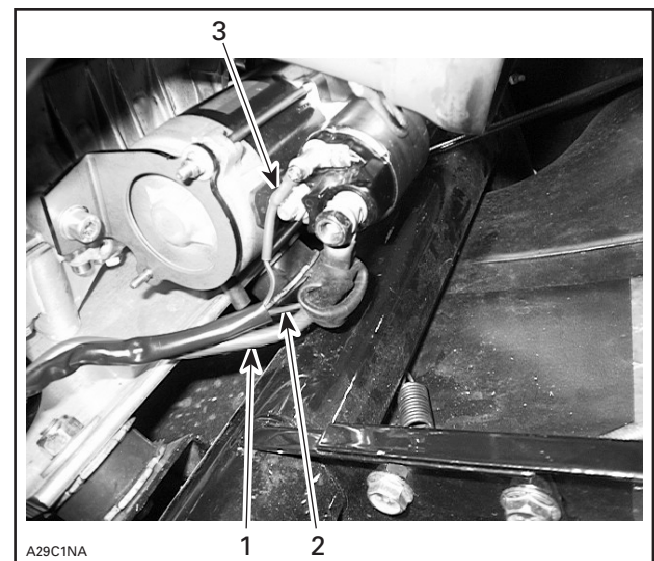
Insert small RED wire of the fuse wiring harness **no. 32** with RED battery positive cable **no. 22** through protector cap **no. 31**. Refer to following photo.



1. RED battery positive cable
2. Fuse wiring harness small RED wire
3. Fuse wiring harness RED-GREEN wire

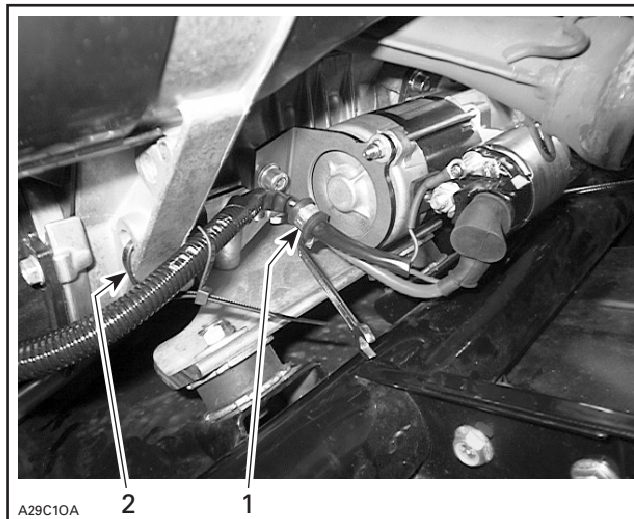
Connect both of them to the most forward solenoid terminal, small wire first, and secure them in place with M8 lock washer **no. 25** and M8 hexagonal nut **no. 29**.

Connect small RED-GREEN wire of the fuse wiring harness to the small upper solenoid post using washer and nut already there.



1. RED battery positive cable
2. Fuse wiring harness small RED wire
3. Fuse wiring harness RED-GREEN wire

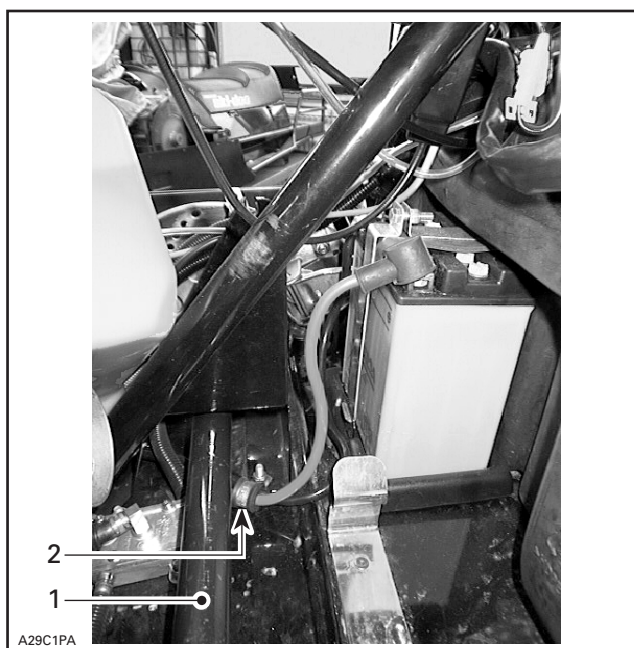
Pass fuse wiring harness and RED battery positive cable through clamp **no. 11** previously installed onto MAG side starter support, and secure to frame with a locking tie **no. 17**. Refer to following photo.



1. Through clamp
2. Secure to frame with a locking tie

From there, route fuse wiring harness to reach BLACK battery ground cable and route RED battery positive cable to reach its battery post on the left side of the oil reservoir.

RED battery positive cable has to pass under countershaft and through clamp **no. 11** that needs to be installed using existing flanged elastic nut situated below oil reservoir on left side and behind countershaft. Refer to following photo.



1. Countershaft
2. Clamp **no. 11**

Pass RED battery positive cable through protector cap **no. 31**, connect cable to battery, apply dielectric grease on battery post, and cover post with cap. Connect BLACK battery ground cable to battery.

⚠ WARNING

Always connect the battery cables exactly in the specified order. Connect RED positive cable first, then BLACK negative ground cable.

Connect fuse wiring harness to white female connector situated on right side under console; (put dielectric grease in connector).

Secure fuse wiring harness and BLACK battery ground cable together with locking ties **no. 17** where needed, right side of oil reservoir, attaching them to existing harnesses.

⚠ WARNING

Ensure all terminals are properly crimped on wires/cables and that all connector housings are properly fastened. Keep wires away from any rotating, moving, heating, vibrating and sharp edge parts. Use proper fastening devices as required.

Finalizing Assembly

Refer to the appropriate *Ski-Doo Shop Manual* for proper reinstallation procedure.

Reinstall drive and driven pulleys.

Check pulley alignment.

⚠ WARNING

Drive pulley alignment must always be checked whenever pulleys have been removed, replaced or disassembled.

Reinstall bottom pan retaining screws previously removed.

Reinstall remaining removed parts not forgetting to secure oil reservoir retaining screws.

NOTE: Apply Dow Corning sealer **no. 736 RTV** on exhaust manifold ball joint.

Test electrical starting and ignition cut-out systems as per normal starting procedure for electric starter models.

M5346624

1.	M5346654	Starter Support PTO Side	Support de démarreur, côté PDM
2.	M5346655	Starter Support MAG Side	Support de démarreur, côté MAG
3.	M5446629	Regulator/Rectifier	Régulateur/redresseur
4.	234 081 410	Thin Flat Washer M8	Rondelle plate mince M8
5.	417 009 400	Ring Gear	Couronne de lancement
6.	236 281 684	Self-Tapping Screw (6)	Vis autotaraudeuse (6)
7.	M20078	Thick Flat Washer M8 (6)	Rondelle plate épaisse M8 (6)
8.	M42215	Battery	Batterie
9.	M5346659	Battery Seat	Siège de batterie
10.	M5446666	Rubber Strip	Bande de caoutchouc
11.	M27092	Clamp (2)	Bride (2)
12.	M5446682	Front Battery Steel Strap	Bande de retenue avant de la batterie
13.	M5446694	Rear Battery Steel Strap	Bande de retenue arrière de la batterie
14.	207 063 044	Hexagonal Screw M6 x 30	Vis hexagonale M6 x 30
15.	234 061 410	Flat Washer M6	Rondelle plate M6
16.	M33200	Flanged Elastic Nut	Écrou élastique à épaulement
17.	414 115 200	Locking Tie (6)	Attache (6)
18.	M20009	Flat Washer M6 (2)	Rondelle plate M6 (2)
19.	232 561 414	Flanged Elastic Nut M6 (2)	Écrou élastique à épaulement M6 (2)
20.	M40066	Allen Screw M8 x 16	Vis Allen M8 x 16
21.	207 182 044	Hexagonal Screw M8 x 20 (2)	Vis hexagonale M8 x 20 (2)
22.	M549887	RED Battery Positive Cable	Câble positif ROUGE de la batterie
23.	M40327	Self-Tapping Hexagonal Screw M6 x 12	Vis hexagonale autotaraudeuse M6 x 12
24.	205 082 044	Allen Screw M8 x 20 (2)	Vis Allen M8 x 20 (2)
25.	234 181 401	Lock Washer M8 (6)	Rondelle-frein M8 (6)
26.	410 212 400	Starter	Démarreur
27.	M20008	Flat Washer M5 (2)	Rondelle plate M5 (2)
28.	232 551 414	Flanged Elastic Nut M5 (2)	Écrou élastique à épaulement M5 (2)
29.	M33003	Hexagonal Nut M8	Écrou hexagonal M8
30.	M549886	BLACK Battery Ground Cable	Câble de masse NOIR de la batterie
31.	570 151 000	Protector Cap (2)	Capuchon de protection (2)
32.	M5346695	Fuse Wiring Harness	Faisceau de fils de fusible
33.	—	Hexagonal Screw (2) (supplied in battery box)	Vis hexagonale (2) (fournies dans la boîte de la batterie)
34.	—	Hexagonal Nut (2) (supplied in battery box)	Écrou hexagonal (2) (fournis dans la boîte de la batterie)
35.	—	Battery Vent Tube (supplied in battery box)	Tube de ventilation de la batterie (fournis dans la boîte de batterie)



**SEAT BACKREST
(P/N M5346626)**

⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. This instruction sheet should be given to the purchaser. This kit is designed for specific applicable models only. It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 0.3 hour.

PARTS TO BE INSTALLED

This kit consists of:

1. Backrest Assembly (P/N M5340916)
2. Backrest Frame (P/N M5246392)
3. Spacer (long) (2) (P/N M5446380)
4. Spacer (short) (2) (P/N M5446381)
5. M8 x 30 Allen Screw (2) (P/N M40135)
6. M8 x 45 Allen Screw (2) (P/N M40286)
7. M8 Flanged Elastic Nut (4) (P/N M33201)

INSTRUCTION

Lift seat.

On left side, locate 2 most rearward seat hinges and, through already existing hole in each hinge, drill an 8 mm (5/16 in) hole through seat plastic shell. Avoid drilling too far in order not to damage seat leatherette.

With a small ice pick, pierce leatherette at center of newly drilled holes.

On the opposite side (right side) locate 2 most rearward inner seat plastic shell recesses; locate their true center and drill holes through seat plastic shell taking care not to drill too far.

NOTE: Unhooking seat stopper rod will provide a better access angle to perform drilling operation on right side.

With a small ice pick, pierce leatherette at center of newly drilled holes.

Hook up seat stopper rod if it has been unhooked.

Close seat and, where leatherette is punctured, use a sharp knife and enlarge holes in order to insert spacers. Be careful not to cut too big a hole; better to cut small and try inserting spacer gradually.

Insert long spacers **no. 3** in right side holes.

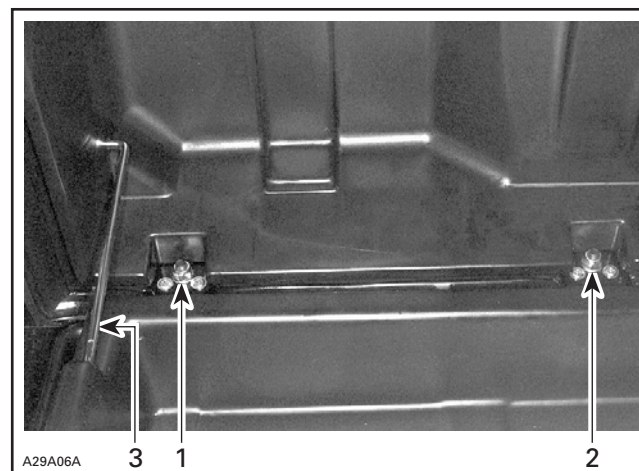
Insert short spacers **no. 4** in left side holes.

With the help of another person, install backrest frame **no. 2** in line with spacers on each side.

Insert M8 x 45 allen screws **no. 6**, from the outside, in right side holes.

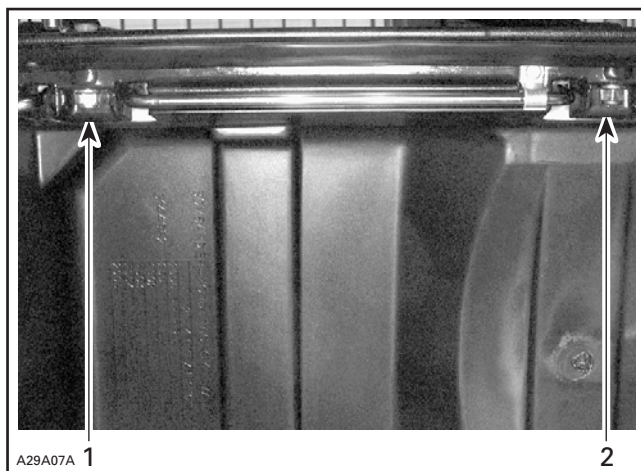
Insert M8 x 30 allen screws **no. 5**, from the outside, in left side holes.

Lift seat and secure backrest frame in place with M8 flanged elastic nuts **no. 7**. Tighten to 22 N•m (16 lbf•ft).



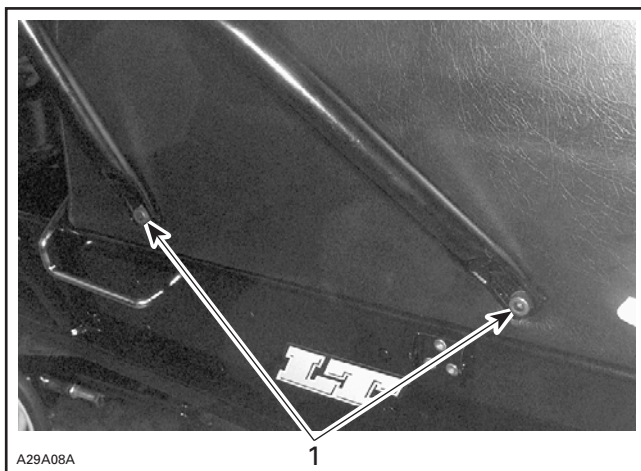
LEFT SIDE SHOWN

1. Allen screw secured in most rearward hinge hole
2. Allen screw secured in second most rearward hinge hole
3. Seat stopper rod



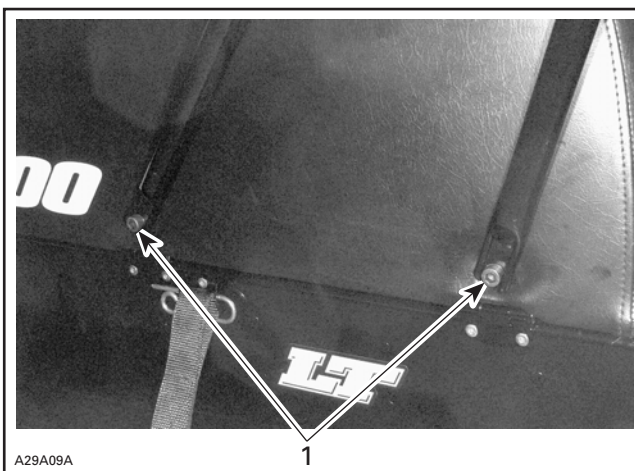
RIGHT SIDE SHOWN

1. Allen screw secured in most rearward seat plastic shell recess
2. Allen screw secured in second most rearward seat plastic shell recess



VIEW FROM RIGHT SIDE (SEAT CLOSED)

1. Both allen screws

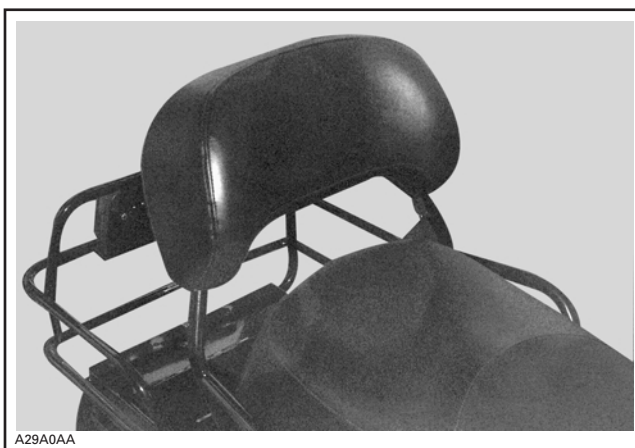


VIEW FROM LEFT SIDE (SEAT CLOSED)

1. Both allen screws

Completely unzip backrest leatherette and slide backrest **no. 1** onto backrest frame making sure frame slides between both foam thicknesses. Ensure backrest fits snugly.

Properly zip backrest inside frame vertical bars. Installation is now complete.



INSTALLATION COMPLETED



**SUPPORT AXLE
(P/N M538481)**

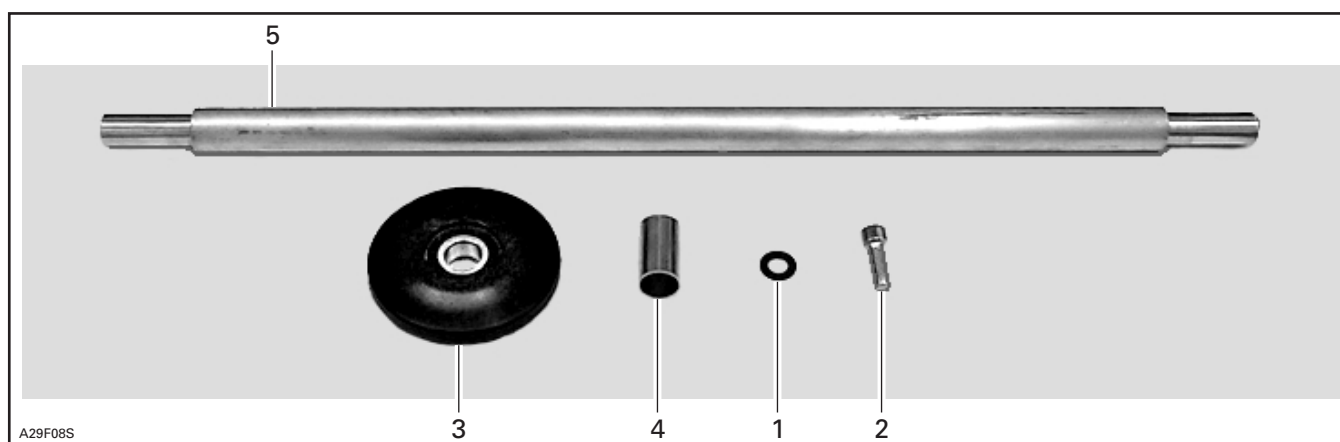
⚠ WARNING

For safety reasons, this kit must be installed by an authorized Ski-Doo® snowmobile dealer. Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one. Torque wrench tightening specifications must strictly be adhered to; refer to table at the end of this document. This instruction sheet should be given to the purchaser.

This kit is designed for specific applicable models only (your authorized Ski-Doo snowmobile dealer will confirm models). It is not recommended for units other than those for which it was sold.

NOTE: Installation time is approximately 0.3 hour.

PARTS TO BE INSTALLED



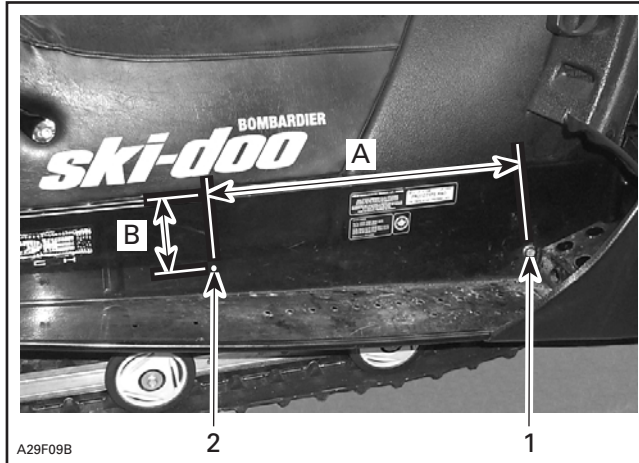
1. Washer M8 (2)
2. Socket Screw M8 x 20 (2)
3. Wheel (2)
4. Spacer (2)
5. Axle

PROCEDURE

Lift up rear of vehicle about 0.5 m (18 in). Apply parking brake on and put a bench under the track.

Check the position of fastening hole on the frame (a 5 mm (3/16 in) prehole is ready).

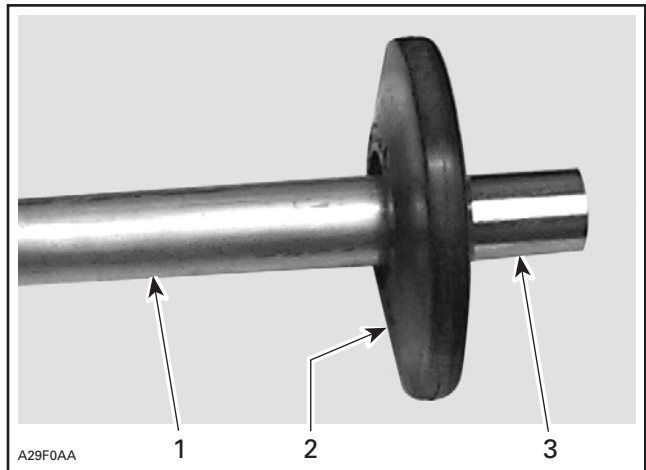
From the bolt of the rear suspension front arm, prehole must be at 485 mm (19 in) and 110 mm (4-5/16 in) downward from top of tunnel.



1. Bolt
2. Pre-hole
- A. 485 mm (19 in)
- B. 110 mm (4-5/16 in)

Drill holes on both sides with 8.5 mm (11/32 in) drill bit.

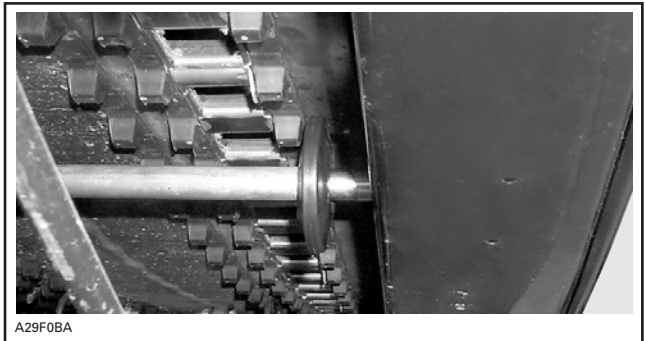
Preassemble axle by pressing wheels (do not hit) to its place and set spacer on axle against the wheel.



1. Axle
2. Wheel
3. Spacer

Install axle inside tunnel using Loctite 243, so that washers are on bolt head side.

Tighten bolts to 23 N•m (17 lbf•pi).



AXLE ASSEMBLED

The following table is to be consulted if and when a tightening torque is required but not specified.

Bold face size indicates nominal value (mean value).

N•m	FASTENER SIZE (8.8 GRADE)	Lbf•in
2	M4	18
3	M4	27
4	M5	35
8	M6	71
9	M6	80
10	M6	89
11	M6	97
12	M6	106

N•m	FASTENER SIZE (8.8 GRADE)	Lbf•ft
21	M8	15
22	M8	16
23	M8	17
24	M8	18
25	M8	18
43	M10	32
44	M10	32
45	M10	33
46	M10	34
47	M10	35
48	M10	35
49	M10	36
50	M10	37
51	M10	38
52	M10	38
53	M10	39
76	M12	56
77	M12	57
78	M12	58
79	M12	58

N•m	FASTENER SIZE (8.8 GRADE)	Lbf•ft
80	M12	59
81	M12	60
82	M12	60
83	M12	61
84	M12	62
121	M14	89
122	M14	90
123	M14	91
124	M14	91
125	M14	92
126	M14	93
127	M14	94
128	M14	94
129	M14	95
130	M14	96
131	M14	97
132	M14	97
133	M14	98
134	M14	99
135	M14	100
136	M14	100
137	M14	101
138	M14	102
139	M14	103
140	M14	103
141	M14	104
142	M14	105
143	M14	105
144	M14	106
145	M14	107
146	M14	108
147	M14	108
148	M14	109
149	M14	110
150	M14	111

M538481

1.	234 081 410	Washer M8 (2)	Rondelle M8 (2)
2.	205 082 044	Socket Screw M8 x 20 (2)	Vis à tête creuse M8 x 20 (2)
3.	M543246	Wheel (2)	Roue (2)
4.	M541776	Spacer (2)	Entretoise (2)
5.	M548482	Axle	Axe