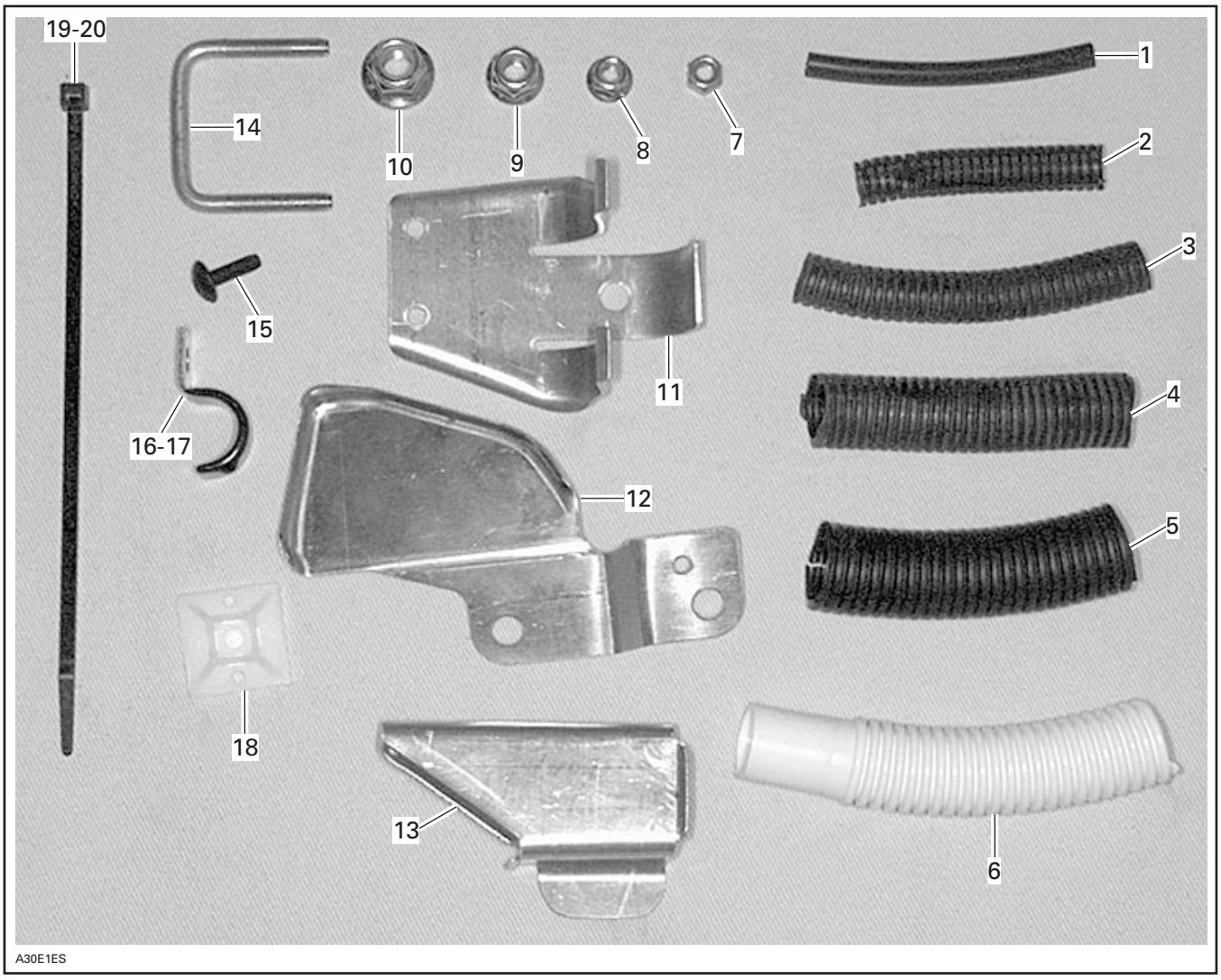
WIRING HARNESS PROTECTOR KIT (P/N 590 176 000)

◆ WARNING

For safety reasons, this kit must be installed by an authorized Bombardier snowmobile dealer. Should removal of a locking device 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: Execution time is approximately 5.5 hours.

PARTS TO BE INSTALLED



1. 6 mm (15/64 in) Tubing (610 mm (24 in)*)
2. 9 mm (23/64 in) Tubing (305 mm (12 in)*)
3. 10 mm (25/64 in) Tubing (1 M (39 in)*)
4. 16 mm (5/8 in) Tubing (1 M (39 in)*)
5. 19 mm (3/4 in) Tubing (610 mm (24 in)*)
6. 22 mm (55/64 in) Tubing (1 M (39 in)*)
7. 6 mm (15/64 in) Elastic Nut (4)
8. 6 mm (15/64 in) Flanged Elastic Nut (2)
9. 8 mm (5/16 in) Elastic Nut (2))
10. 10 mm (25/64 in) Elastic Nut (2)
11. Hose Protector
12. Heatshield
13. Support
14. U Bolt
15. Self-Tapping Hexagonal Screw (2)
16. Clip (small) (2)
17. Clip (large) (2)
18. Locking Tie Mount (2)
19. Locking Tie (short) (10)
20. Locking Tie (long) (10)

* Quantity supplied exceeds requirement.

NOTE: Also needed is isopropyl alcohol (P/N 413 706 500) and electrical tape, as required (not supplied in kit).

INSTRUCTION

Remove engine, refer to appropriate *Shop Manual* for proper procedure.

Using a clean piece of rag, block coolant hose.

Step 1, Visual Inspection

Disconnect hood section of main harness from engine section.

Visually inspect entire wiring harness, both hood and engine sections.

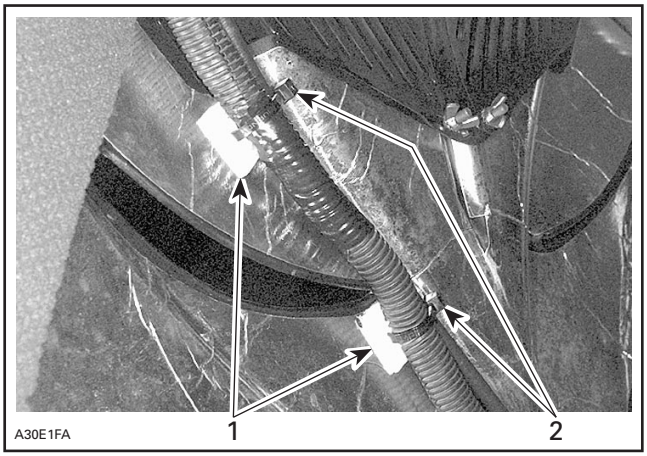
Repair where needed and protect repaired area with electrical tape.

Step 2, Hood Section of Harness

Route and secure hood wiring harness underneath grills.

Clean metallic surface with isopropyl alcohol and install 2 locking tie mounts no. 18.

Secure harness using locking ties no. 19.



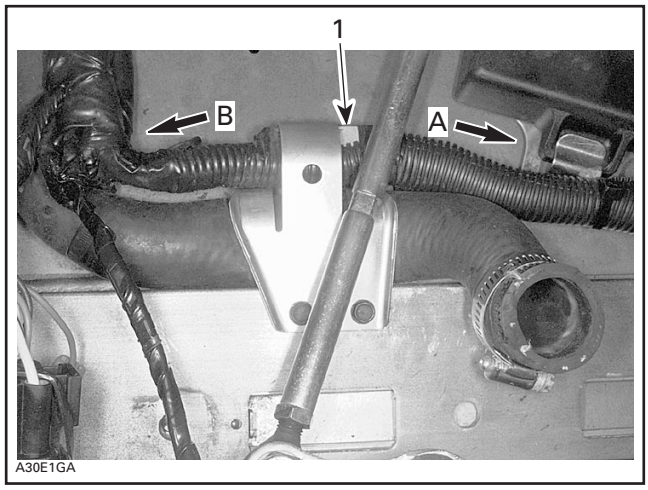
1. Tie mounts
2. Locking ties

Step 3, Engine Section of Harness

Left Front

Formula III, Mach 1 and Mach Z Models

Starting from resistance, going toward harness connectors at front, cover harness using 915 mm (36 in) of 16 mm (5/8 in) tubing no. 4.



1. Start from this resistance
A. Toward front
B. Toward console

All Models

NOTE: Where possible, always close each end of tubing with electrical tape, after covering harness, to avoid tubing from starting to open after a while.

Grand Touring SE/700 Models

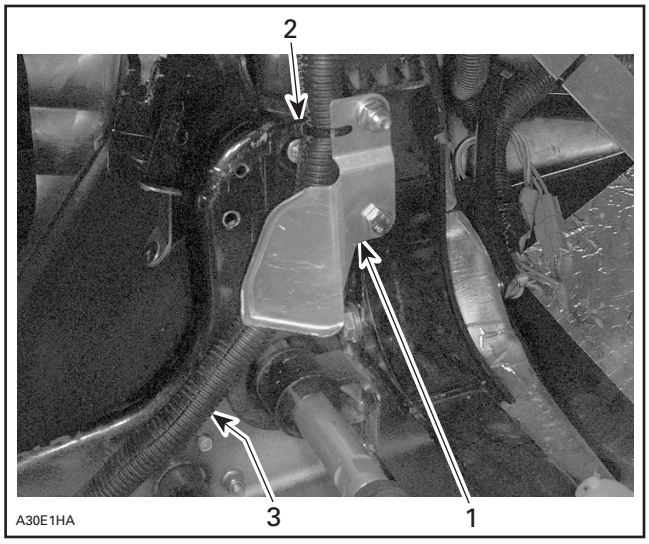
Starting at 50 mm (2 in) from harness connectors at front, going toward central crossmember, cover harness using 720 mm (28 in) of 16 mm (5/8 in) tubing no. 4.

All Models

NOTE: Do not secure with locking ties at this stage, progression will define where and when to secure harness; also, when using a locking tie, always tighten it to its maximum.

All Models

Remove left front shock absorber to reach heatshield retaining bolts; remove existing heatshield and install new heatshield no. 12, using new elastic nuts no 9.



1. *Heatshield no. 12*
2. *Locking Tie*
3. *Harness covered with tubing*

Reinstall shock absorber with new elastic nuts no. 10. Refer to appropriate *Shop Manual* for proper torque specifications.

Formula III, Mach 1 and Mach Z Models

Secure harness under and to heatshield through corner hole using a locking tie no. 19.

Grand Touring SE/700 Models

Secure harness under heatshield and to central crossmember through corner hole using a locking tie no. 19.

Center

Grand Touring SE/700 Models

Starting from central crossmember hole, at previously installed locking tie, going toward console, cover harness with 970 mm (38 in) of 22 mm (55/64 in) tubing no. 6.

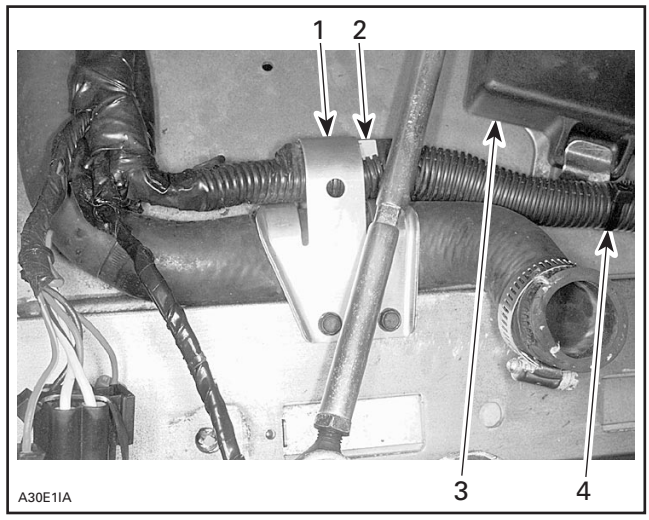
Formula III, Mach 1 and Mach Z Models

Starting from resistance, going toward console, cover harness with 407 mm (16 in) of 19 mm (3/4 in) tubing no. 5.

All models

Route harness beside ignition module support and secure with a locking tie no. 19.

Remove existing coolant hose protector and install new one, no. 11; secure harness under protector.



1. *Hose protector no. 11*
2. *Resistance*
3. *Ignition module*
4. *Locking tie no. 19*

Formula III and Mach 1 Models

Starting from main harness, cover both magneto wires and both regulator wires using respectively 229 mm (9 in) and 102 mm (4 in) of 6 mm (13/64 in) tubing no. 1.

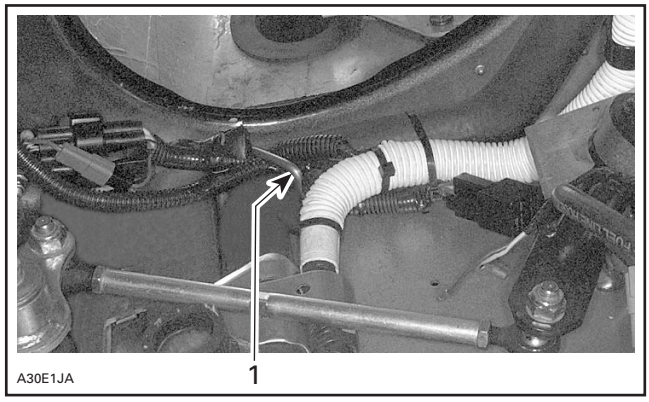
Grand Touring SE/700 and Mach Z Models

Starting from main harness, cover relay wires and regulator wires using respectively 127 mm (5 in) and 77 mm (3 in) of 9 mm (23/64 in) tubing no. 2.

Right Forward Corner

Formula III, Mach 1 and Mach Z Models

At the right forward corner, drill a 6.35 mm (1/4 in) hole on each side of the coolant hose. Install U bolt no. 14 crossing coolant hose, both magneto wires and both regulator wires. Secure U bolt underneath with 2 elastic nuts no. 7.



1. *U Bolt installed*

Grand Touring SE/700 and Battery Equipped Models

At the right forward corner, drill a 6.35 mm (1/4 in) hole on each side of the coolant hose. Install U bolt **no. 14** crossing coolant hose, both magneto wires, both regulator wires and starter wire (red high gauge wire). Secure U bolt underneath with 2 elastic nuts **no. 7**.

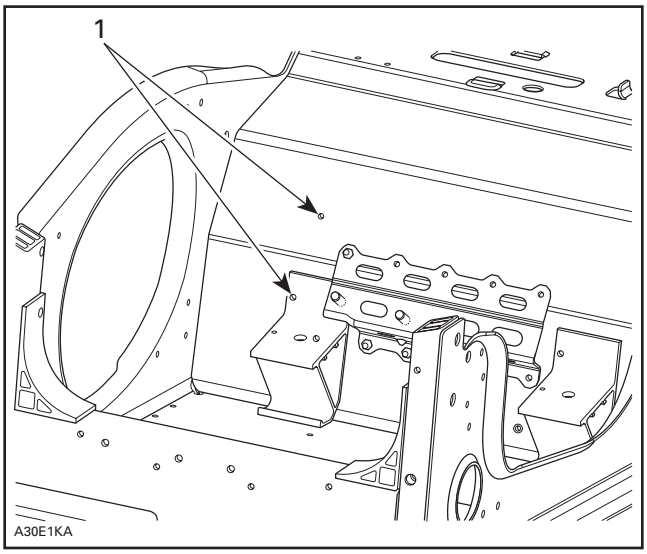
Ensure relay wires are routed under starter wire and that wires will clear engine underneath by 7 mm (9/32 in) at least.

Secure main harness alongside coolant hose with locking ties **no. 20**.

Right Rear Corner

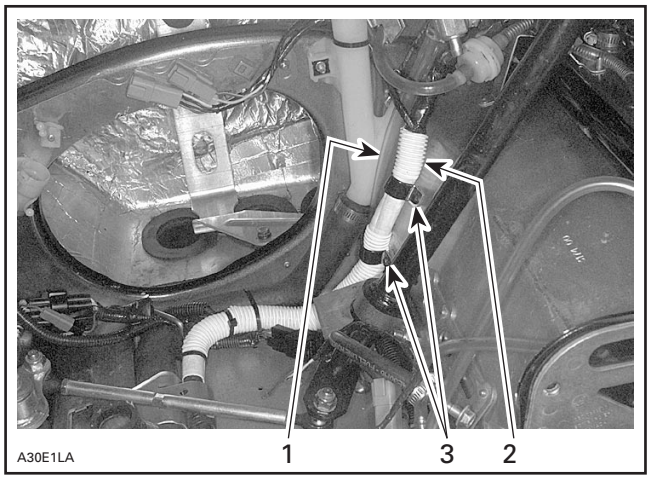
All Models

As per following illustration, drill two 4.36 mm (11/64 in) holes.



1. Drill two 4.36 mm (11/64 in) holes

Switch positioning of fuel line and wiring harness so that harness is now inside.



1. Fuel line outside
2. Wiring harness inside
3. Retaining clips no. 16 or no. 17

Formula III, Mach 1 and Mach Z Models

Secure 2 clips **no. 16** on top of harness, using 2 self tapping hexagonal screws **no. 15**.

Secure harness with a locking tie **no. 20** at the coolant reservoir outlet.

Grand Touring SE/700 Models

Secure 2 clips **no. 17** on top of harness, using 2 self tapping hexagonal screws **no. 15**.

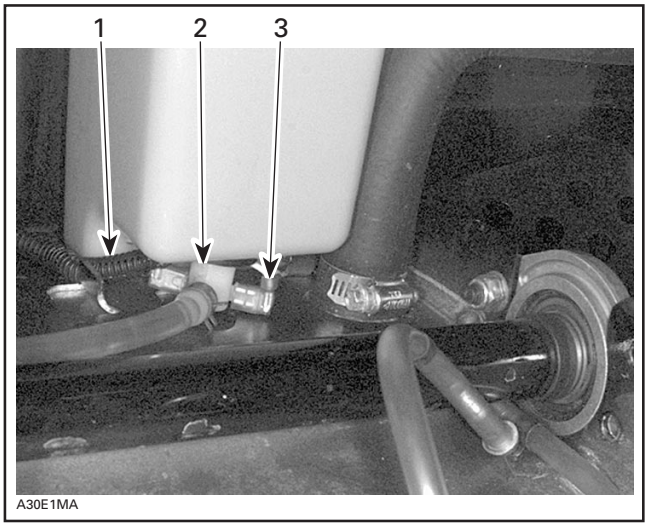
Secure harness with a locking tie **no. 20** at the coolant reservoir outlet.

All Models

Near brake caliper, retain harness to coolant hose (where hose is bent) using a locking tie **no. 20**.

Oil Reservoir Area

Cover oil gauge wires at reservoir, using 100 mm (4 in) of 6 mm (15/64) tubing **no. 1**.



1. Harness covered with tubing
2. Adapter
3. Terminal wires up

NOTE: Wires connected to gauge must be routed on the opposite side of the adapter and terminals positioned wires up.

Step 4, Seat Harness/Fuel Tank Harness

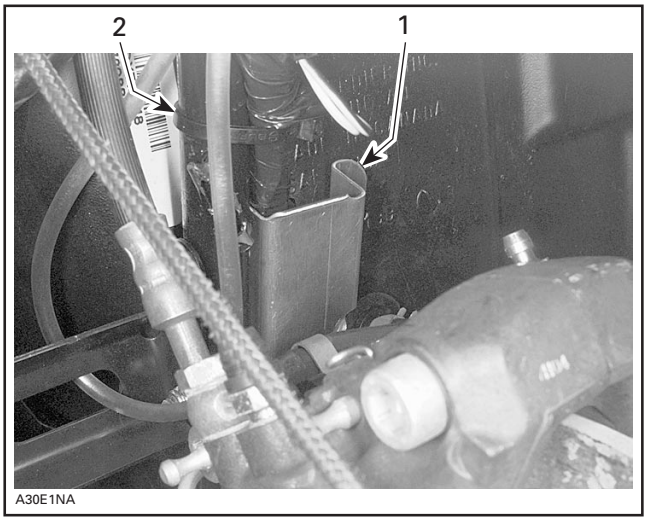
All Models

Remove seat and discard flanged elastic nuts. Refer to appropriate *Shop Manual* for proper procedure.

Disconnect seat harness.

Loosen fuel tank and push backward to ease next operation. Refer to appropriate *Shop Manual* for proper procedure.

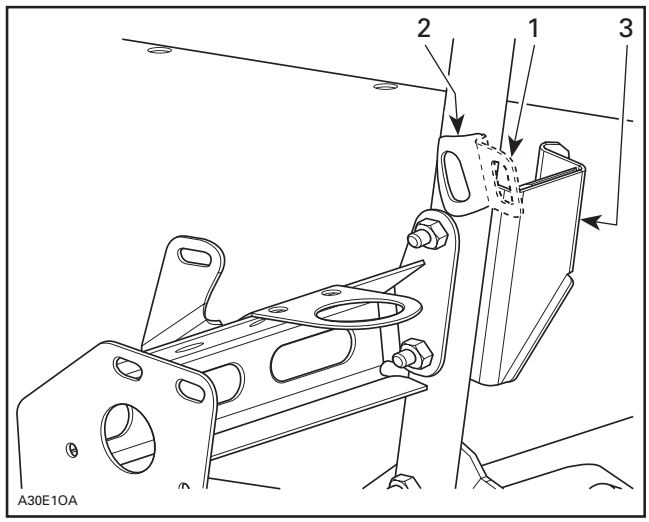
Install support **no. 13**, making sure harness is routed underneath, using right upper bracket retaining screws with new elastic nuts **no. 7**.



1. Support no. 13
2. Locking tie

Grand Touring SE/700 Models

Bend existing welded support as per following illustration.



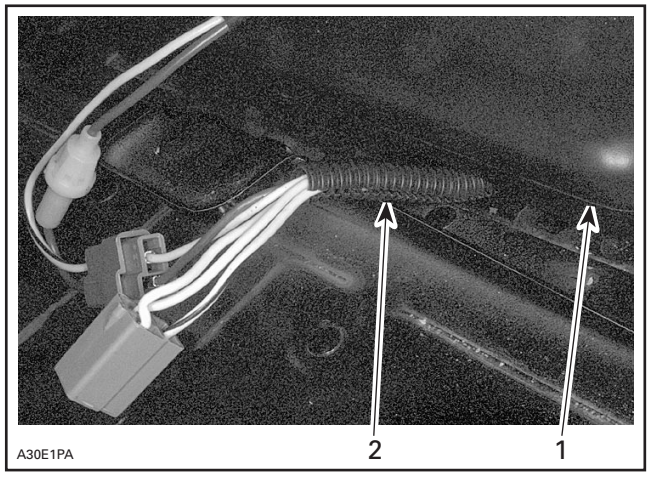
1. Original position
2. New position (bent)
3. Support no. 13

Route spare connector wires above bent support and secure harness to steering support using a locking tie **no. 20**.

All Models

Secure fuel tank in its proper position.

Cover fuel tank harness with 100 mm (4 in) of 10 mm (25/64 in) tubing **no. 3**, starting 50 mm (2 in) away from harness connector.



1. Fuel tank
2. Harness covered with tubing

Cover seat harness with 100 mm (4 in) of 10 mm (25/64 in) tubing **no. 3**, starting 50 mm (2 in) away from harness connector.

Reconnect seat harness and reinstall seat, using new flanged elastic nuts **no. 8**.

Clean entire area and remove rag from coolant hose.

Reinstall engine.

590 176 000

1.	409 902 100	6 mm (15/64 in) Tubing (610 mm (24 in))	Tube de 6 mm (15/64 po) (610 mm (24 po))
2.	409 901 700	9 mm (23/64 in)Tubing (305 mm (12 in))	Tube de 9 mm (23/64 po) (305 mm (12 po))
3.	415 079 900	10 mm (25/64 in) Tubing (1 M (39 in))	Tube de 10 mm (25/64 po) (1 M (39 po))
4.	415 080 000	16 mm (5/8 in) Tubing (1 M (39 in))	Tube de 16 mm (5/8 po) (1 M (39 po))
5.	409 901 600	19 mm (3/4 in) Tubing (610 mm (24 in))	Tube 19 mm (3/4 po) (610 mm (24 po))
6.	515 175 319	22 mm (55/64 in) Tubing (1 M (39 in))	Tube 22 mm (55/64 po) (1 M (39 po))
7.	232 561 414	6 mm (15/64 in) Elastic Nut (4)	Écrou d'arrêt élastique de 6 mm (15/64 po) (4)
8.	233 261 414	6 mm (15/64 in) Flanged Elastic Nut (2)	Écrou d'arrêt élastique à épaulement de 6 mm (15/64 po) (2)
9.	232 581 414	8 mm (5/16 in) Elastic Nut (2)	Écrou d'arrêt élastique de 8 mm (5/16 po) (2)
10.	228 501 045	10 mm (25/64 in) Elastic Nut (2)	Écrou d'arrêt élastique de 10 mm (25/64 po) (2)
11.	509 000 037	Hose Protector	Protecteur de boyau
12.	518 321 421	Heatshield	Écran thermique
13.	515 175 149	Support	Support
14.	291 000 468	U Bolt	Boulon en U
15.	210 251 180	Self-tapping Hexagonal Screw (2)	Vis hexagonale autotaraudeuse (2)
16.	415 018 200	Clip (small) (2)	Pince (petite) (2)
17.	515 175 316	Clip (large) (2)	Pince (grande) (2)
18.	293 750 015	Locking Tie Mount (2)	Support d'attache (2)
19.	414 115 200	Locking Tie (short) (10)	Attache (courte) (10)
20.	293 750 008	Locking Tie (long) (10)	Attache (longue) (10)