



**CARBURETORS/TRA CLUTCH
RECALIBRATION KIT
(P/N 590 122 000)**

⚠ 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.

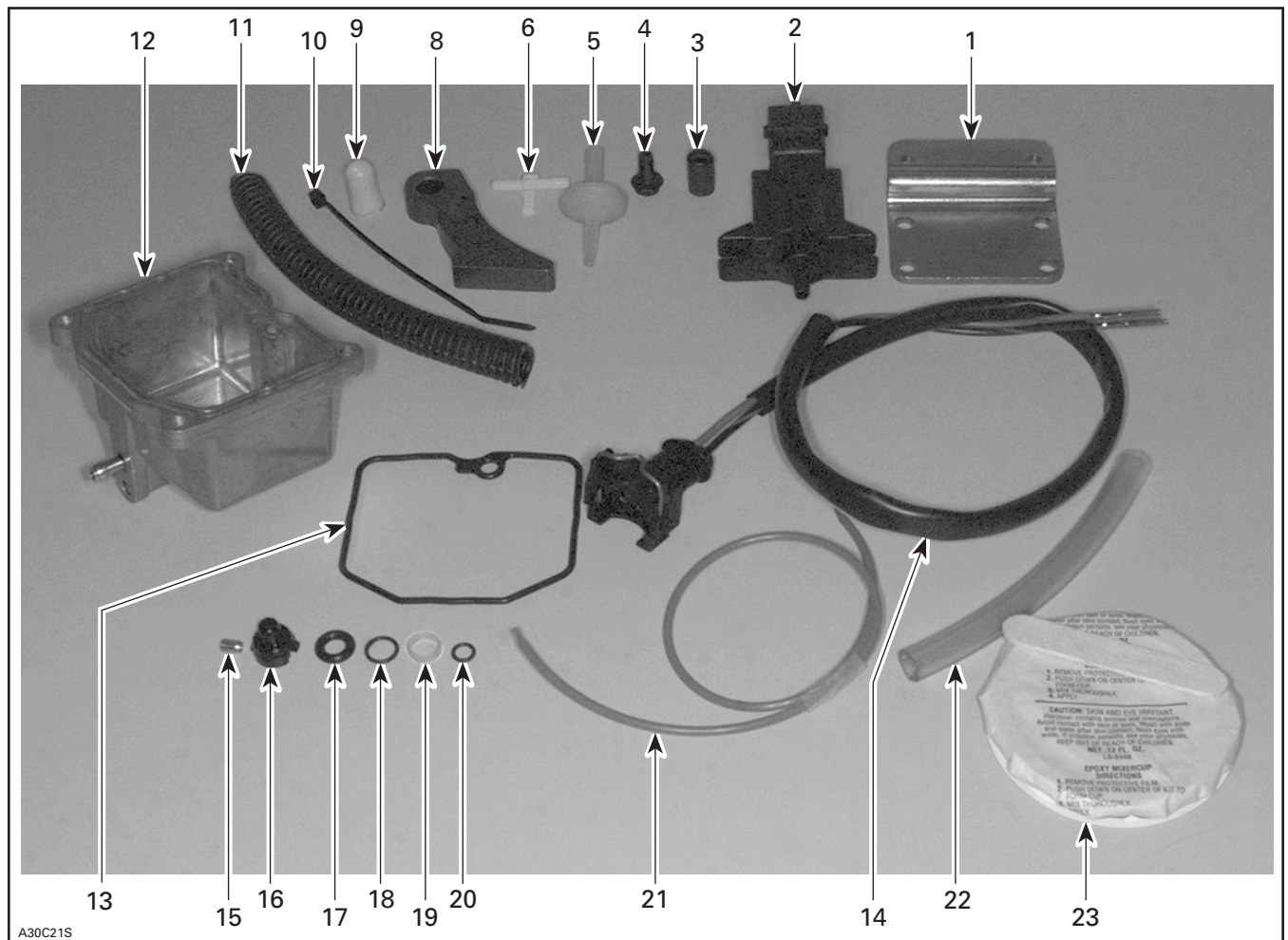
NOTE: Installation time is 2.6 ① hours for 1999 Grand Touring SE models ②.

NOTE: Installation time is 2.0 ① hours for 2000 Grand Touring SE models ②.

① Amount of labor allowed **includes all 3 recalibration items** mentioned in either *Warranty Bulletins* 99-9 or 2000-3: A) Cold Start Carburation Recalibration, B) TRA Clutch Recalibration and C) MPEM Recalibration.

② For which models this instruction sheet is solely intended.

PARTS TO BE INSTALLED



A30C21S

1. Solenoid Plate
2. Solenoid Valve
3. Cap
4. Self-Tapping Screw (2)
5. Check Valve (3)
6. T-Fitting (2)
7. Hose (1 m (39 in)) (not illustrated)
8. Ramp (3)
9. Cap (3)
10. Locking Tie (5)
11. Protector Tubing (125 mm (5 in))
12. Float Body

13. Float Body O-Ring
14. Solenoid Valve Harness
15. Compensation Jet 2.0
16. Vacuum Collector End Cap
17. Vacuum Collector End Cap O-Ring
18. Compensation Solenoid O-Ring (larger)
19. Compensation Solenoid Plastic Spacer
20. Compensation Solenoid O-Ring (smaller)
21. Nylon Wire (1/2 m (20 in)) (1999 models only)
22. Tubing (102 mm (4 in))
23. Quick Epoxy Kit (1999 models only)

INSTRUCTION

WARNING

Torque wrench tightening specifications must strictly be adhered to. Locking devices (ex.: locking tabs, elastic stop nuts, self-locking fasteners, etc.) must be installed or replaced with new ones where specified. If the efficiency of a locking device is impaired, it must be renewed.

NOTE: This instruction sheet must be used **in conjunction with** *Warranty Bulletin* 99-9 or 2000-3.

Carburetors Recalibration

Removal

Ensure fuel valve is closed on snowmobile.

WARNING

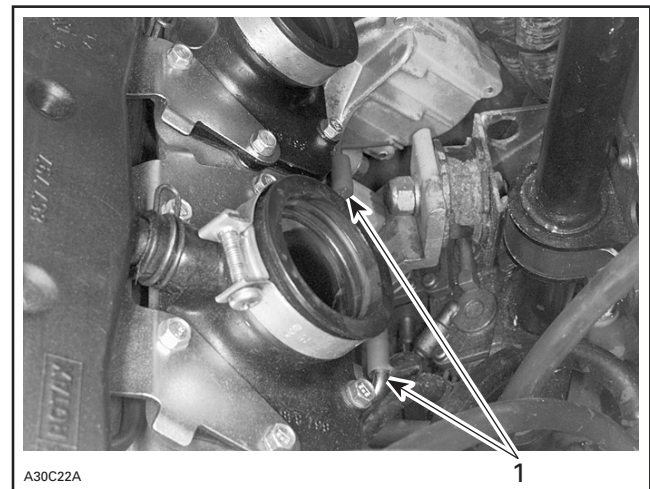
Fuel is flammable and explosive under certain conditions. Always wipe off any fuel or oil spillage from the vehicle. Ensure work area is well ventilated. Do not smoke or allow open flames or sparks in the vicinity.

At this stage, carburetors/DPM have been removed from snowmobile and rest on a working bench.

1999 and 2000 Models

Before proceeding with carburetor modifications, unplug and discard all 3 air pump hoses; air pump will no longer be used.

Plug up 2 air pump impulse fittings on engine using caps no. 9.



1. 2 impulse fittings on engine

1999 Model Year Only (compensation mode)

Remove and discard DPM vacuum collector end cap and its O-ring (if O-ring does not come out, get it out with a small hook).

Remove DPM compensation solenoid retaining plate by removing its retaining screw; these parts will be reused.

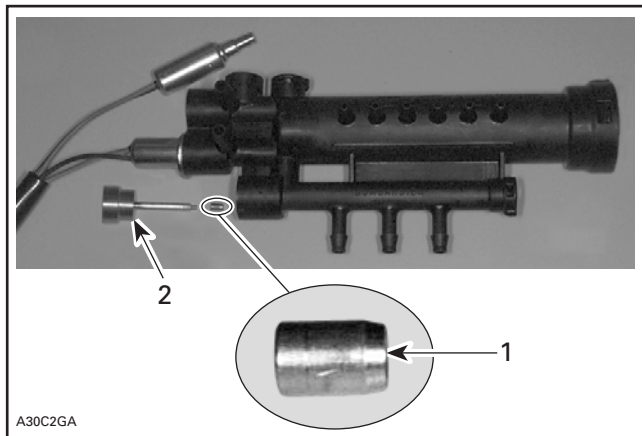
Pull out DPM compensation solenoid by wiggling it out; pull it out gently so to be sure larger O-ring and plastic spacer will come out. Discard larger O-ring, spacer and smaller O-ring.

Using DPM compensation jet extractor tool (P/N 529 035 723), push out compensation jet by inserting tool on DPM vacuum collector end cap side. Discard jet.

WARNING

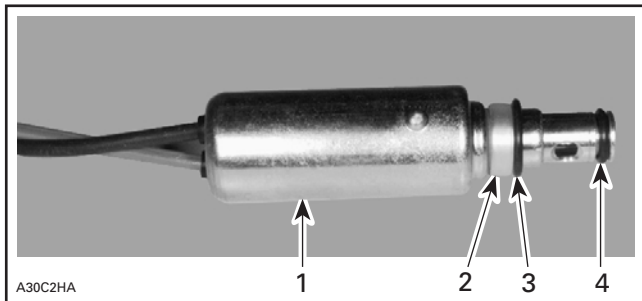
Push tool slowly and gently, a hard blow may propel jet in someone's face. Wear protective glasses during this operation.

Using DPM compensation jet installer tool (P/N 529 035 722), insert compensation jet **no. 15**, tapered end first, on compensation solenoid side; when tool contacts DPM body, compensation jet is properly seated.



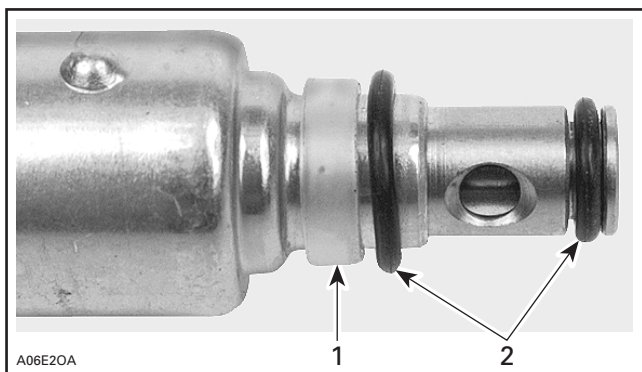
1. Compensation jet no. 15
2. Installer tool

Slide DPM compensation solenoid plastic spacer **no. 19**, then larger DPM compensation solenoid O-ring **no. 18** onto compensation solenoid and finally, slide smaller DPM compensation solenoid O-ring **no. 20** into compensation solenoid groove.



1. Solenoid
2. Plastic spacer no. 19
3. Larger O-ring no. 18
4. Smaller O-ring no. 20

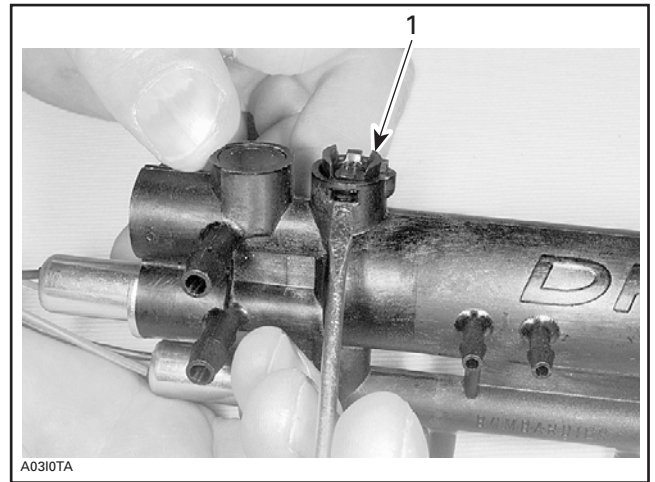
At reassembly, ensure that solenoid seals are in place.



1. Plastic spacer
2. O-rings

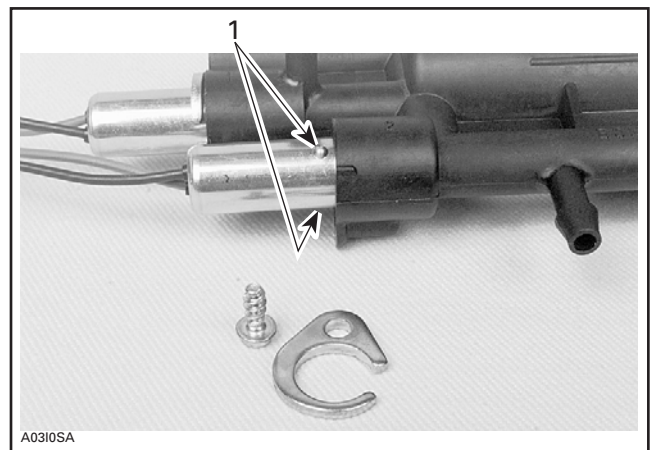
Installation of compensation solenoid must be done as follows:

Remove transfer gallery plug by pushing 2 tabs.



1. Transfer gallery plug

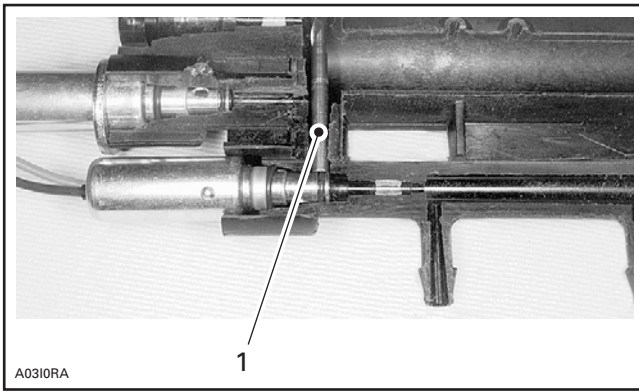
Partially insert compensation solenoid into DPM manifold.



1. Embosses not engaged

Insert a 3.969 mm (5/32 in) drill bit with its round end first into the transfer gallery.

Fully push solenoid into DPM manifold while maintaining a pressure on drill bit. This will guide the solenoid O-ring.

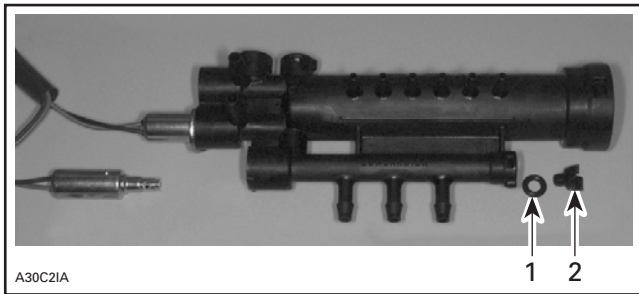


TYPICAL — CUT-AWAY

1. Drill bit round end guiding solenoid O-ring

Secure DPM compensation solenoid in place with its retaining plate and screw previously removed. Snap transfer gallery plug back in place.

Insert DPM vacuum collector end cap O-ring **no. 17** onto DPM vacuum collector end cap **no. 16**. Align cap dot with solenoid body groove and push it in its hole till it snaps in place.

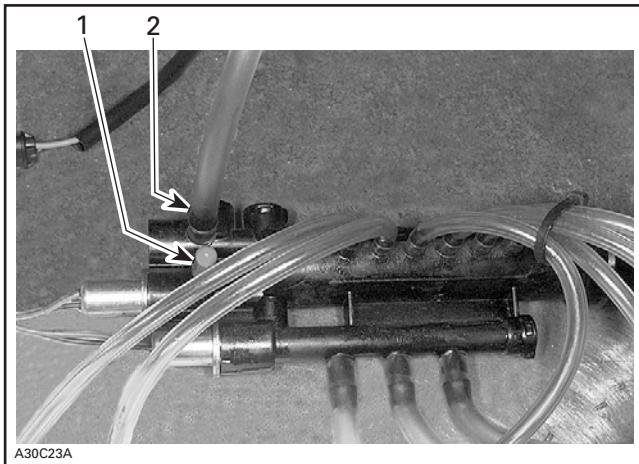


1. End cap O-ring no. 17
2. End cap no. 16

1999 and 2000 Models

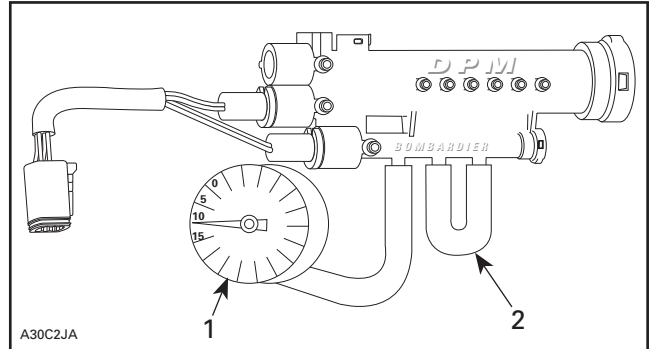
Using third and last cap **no. 9**, plug up air pump inlet fitting on air pressure manifold.

CAUTION: Ensure proper fitting is plugged up otherwise, severe engine damage will occur.



1. Fitting to be plugged up on pressure manifold
2. Vent hose **not to be plugged up nor removed**

Disconnect all 3 carburetor venturi hoses from DPM. Using tubing **no. 22**, connect 2 carburetor venturi nipples together as per following illustration and proceed with air tightness test by connecting tester onto third nipple; must hold 5 PSI vacuum for 10 seconds.



1. Tester
2. Tubing no. 22

Repair leaks (if any).

Reconnect carburetor venturi hoses to DPM.

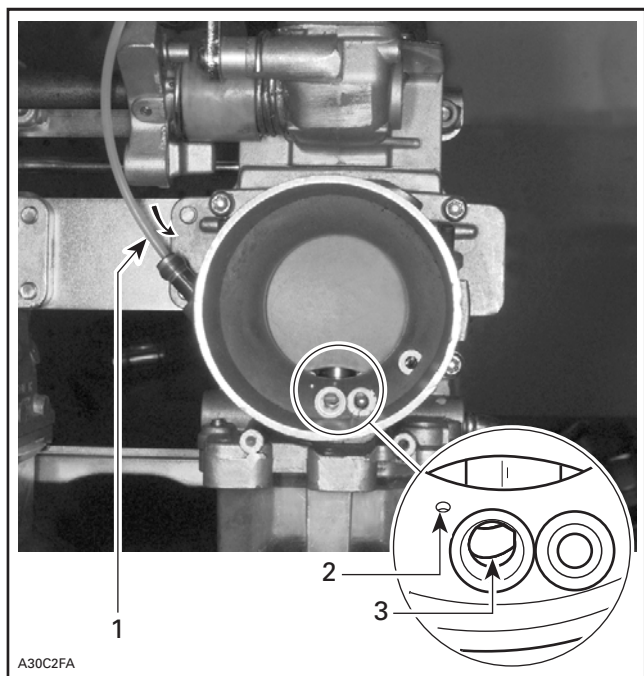
1999 Model Year Only

Cut the 1/2 m (20 in) long nylon wire **no. 21**, into 3 equal lengths; grind one end of each length as to sharpen a pencil, and insert in venturi hose inlet of each carburetor.

Remove and keep screw inside carburetors (no. 3 hole in illustration below).

Push nylon wire till the end until tip of it is visible through hole left by removal of screw.

For better result, use a regular pair of pliers and pinch nylon wire at approximately 6.35 mm (1/4 in) from carburetor venturi hose inlet and push nylon wire, back up and repeat with pliers until tip of wire is visible.



1. Nylon wire no. 21
2. Hole to block
3. Nylon wire seen through screw hole

Clean surfaces around holes to block (no. 2 in above illustration) with carburetor cleaner and get quick epoxy kit no. 23 ready. (Follow manufacturer's instructions).

Using supplied wooden stick, apply a small coat of epoxy on hole of each carburetor, wipe off excess with a clean cloth and set aside to dry for 3 minutes.

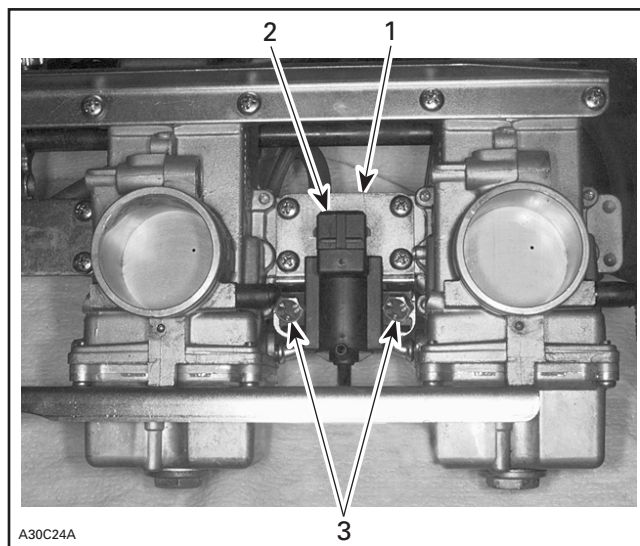
Pull out nylon wires from carburetors.

Reinstall previously removed screw inside carburetors.

1999 and 2000 Models

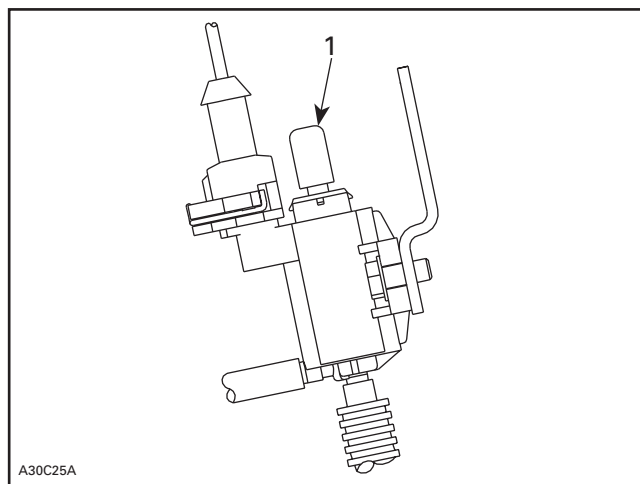
With carburetors laying flat on working bench, engine side up, exchange plate between CENTER and PTO side carburetors with solenoid plate no. 1 using same screws.

Secure solenoid valve no. 2 to solenoid plate using 2 self-tapping screws no. 4. Tighten at 2.7 to 3 N•m (24 to 27 lbf•in). Refer to following photo.



1. Solenoid plate
2. Solenoid valve
3. Self-tapping screws no. 4

Using cap no. 3, plug up top outlet fitting on solenoid valve. Refer to following illustration.



1. This outlet fitting **must be plugged up**

WARNING

Top outlet fitting on solenoid valve **must be plugged up** or fuel may exit and cause damage. Fuel is flammable and explosive under certain conditions. Always wipe off any fuel or oil spillage from the vehicle. Ensure work area is well ventilated. Do not smoke or allow open flames or sparks in the vicinity.

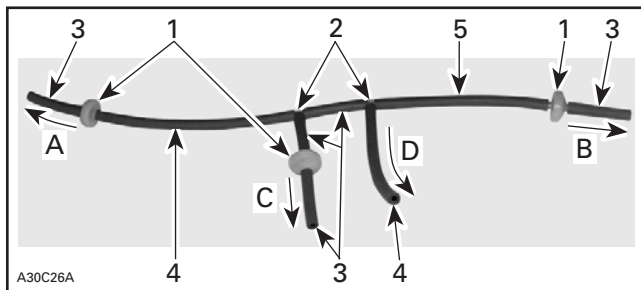
Remove and discard existing float body from CENTER carburetor and install float body no. 12 using same screws and making sure float body O-ring no. 13 is properly placed in new float body groove. **Transfer bottom plug with O-ring from old to new float body.**

⚠ WARNING

Fuel is flammable and explosive under certain conditions. Always wipe off any fuel or oil spillage from the vehicle. Ensure work area is well ventilated. Do not smoke or allow open flames or sparks in the vicinity.

Cut a length of 135 mm (5-5/16 in) from hose no. 7 and connect it from solenoid valve bottom fitting to CENTER carburetor float body fitting; secure hose to float body fitting with a locking tie no. 10, and cover hose with protector tubing no. 11.

Using three no. 5 check valves, two no. 6 T-fittings with the remaining of the meter (39 in) long no. 7 hose, cut hose to appropriate lengths and connect to reach pattern shown in next illustration.

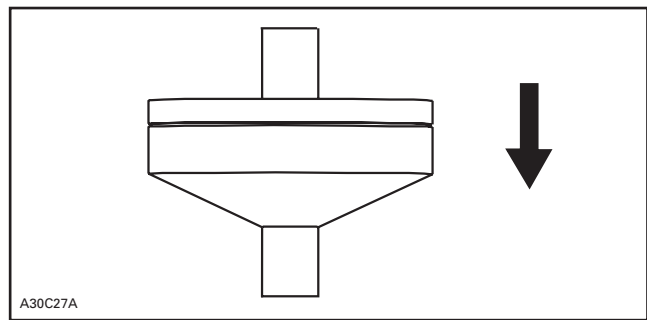


1. Check valve (3)
2. T-fitting (2)
3. 41 mm (1-39/64 in) length hose (5)
4. 135 mm (5-5/16 in) length hose (2)
5. 110 mm (4-21/64 in) length hose (1)
- A. To MAG side carburetor
- B. To PTO side carburetor
- C. To CTR carburetor
- D. To solenoid valve

Remove factory installed plugs from fuel inlet fitting of each carburetor and connect hoses as per pattern.

CAUTION: Make sure check valves are properly installed so they deliver gas instead of blocking its circulation. Coned side, like an arrow, shows in which direction gas circulates, towards carburetors.

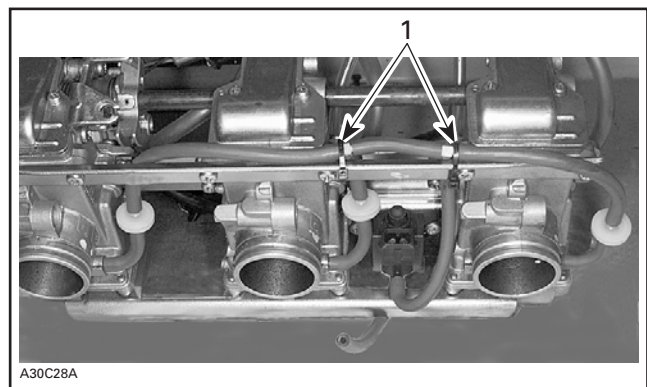
Refer to following illustration.



ARROW SHOWS DIRECTION OF GAS FLOW TOWARDS CARBURETORS

Route as described and secure to plate with 2 locking ties no. 10 as per following photo.

NOTE: Make sure both locking ties are over T-fittings in order not to kink hose.

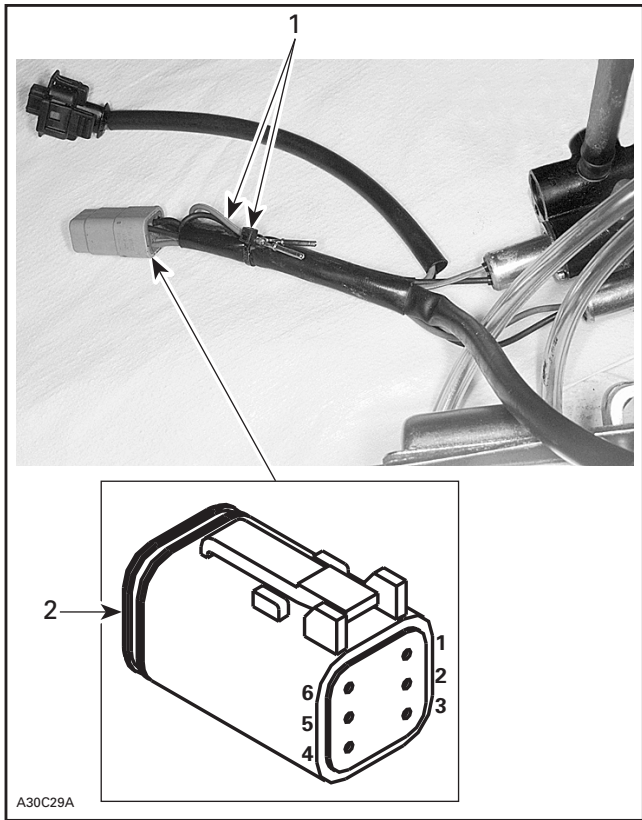


1. Locking ties

Enrichment Mode

From DPM electrical harness male connector housing, remove RED-GREEN wire (position 2 in illustration below) and its BLACK wire (position 5 in illustration below), fold them backward onto their plastic protector and secure them in place with a locking tie no. 10. This will cancel this enrichment solenoid.

Ensure you remove the good wires from connector (the ones from enrichment solenoid), refer to following illustration.



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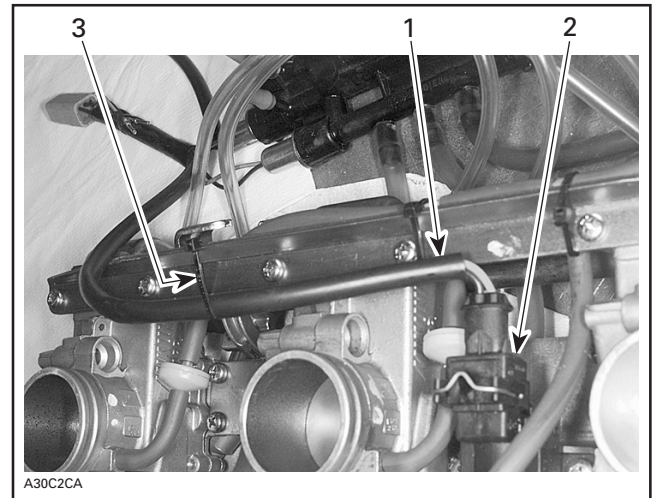
1. RED-GREEN (2) and BLACK (5) wires folded backward and secured with a locking tie
2. Positioning of wires **in male connector housing**
 - 1 — VIOLET
 - 2 — RED-GREEN
 - 3 — RED BLUE
 - 4 — BLACK
 - 5 — BLACK
 - 6 — BLACK

Connect solenoid valve harness no. 14 to solenoid valve.

Route RED-GREEN and BROWN-GREEN wires from **new solenoid valve** harness through DPM solenoid wires plastic protector and insert their terminals in DPM electrical harness male connector housing to replace previously removed RED-GREEN and BLACK wires.

RED-GREEN replaces RED-GREEN at position 2.
BROWN-GREEN replaces BLACK at position 5.

CAUTION: Do not mix their positioning; BROWN-GREEN wire connects on the same side than BLACK wires connect, while RED-GREEN wire connects on the colored wires side.

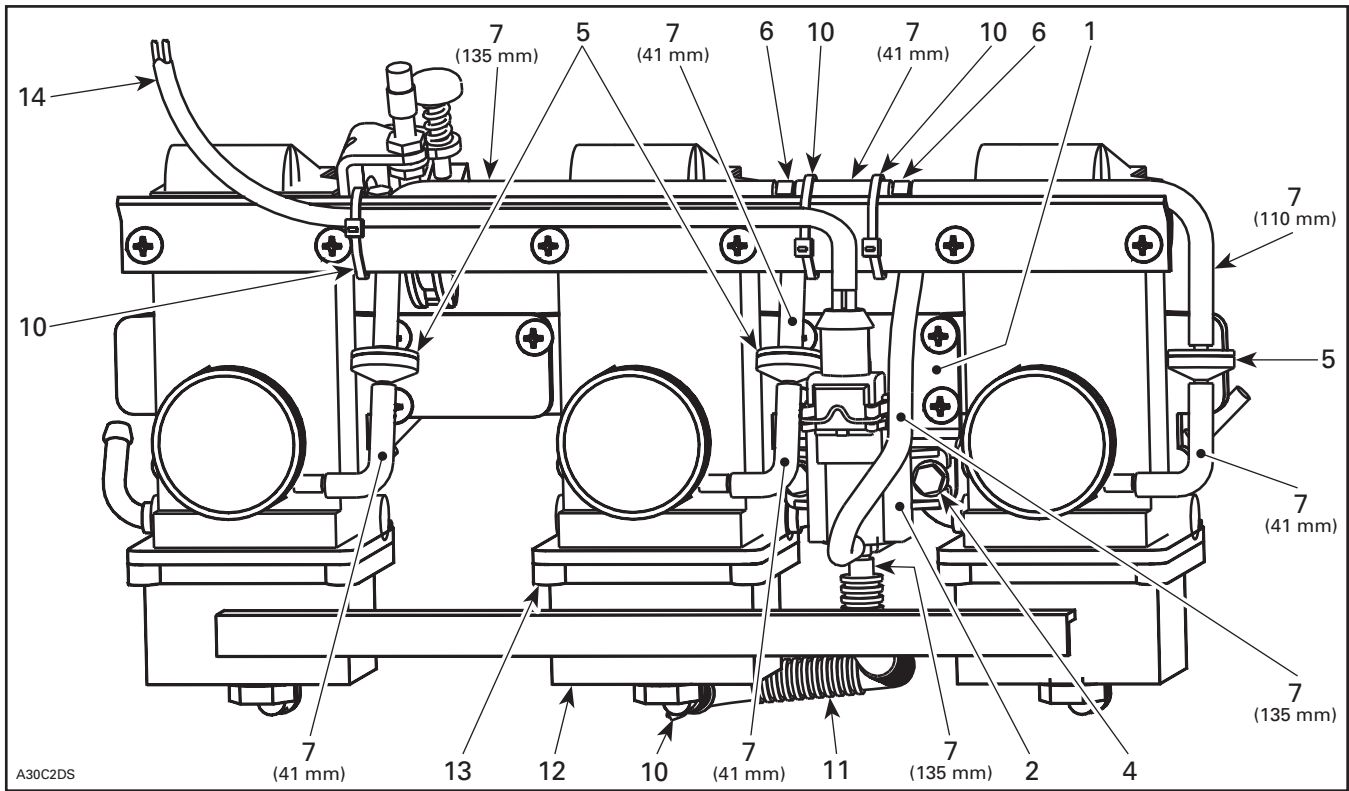


A30C2CA

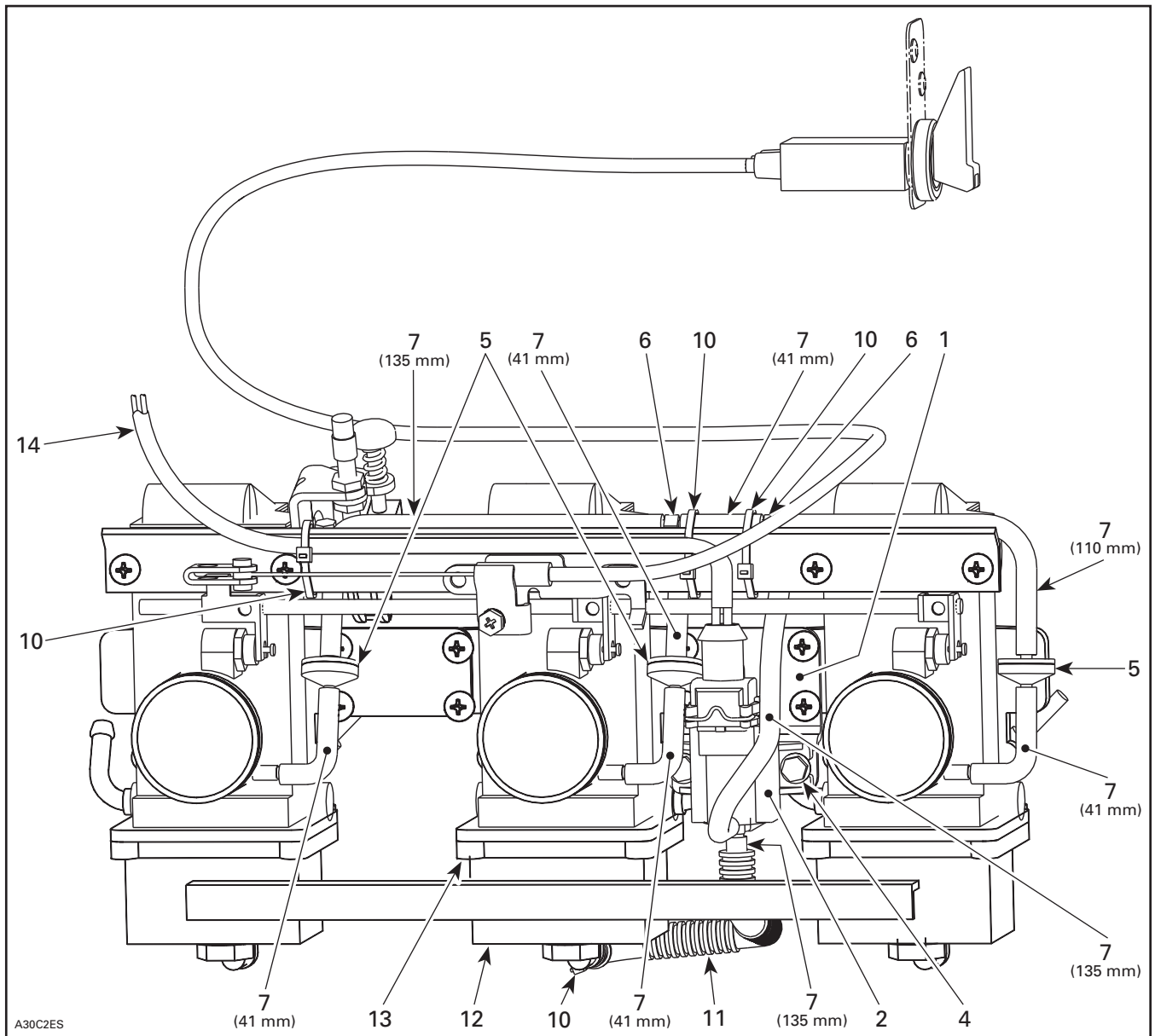
SOLENOID VALVE HARNESS CONNECTED TO SOLENOID VALVE

1. Solenoid valve harness
2. Solenoid valve
3. Locking tie

Using locking tie no. 10, secure solenoid valve harness to plate.



FINAL INSTALLATION (1999 MODEL YEAR)
NUMBERS REFER TO "PARTS TO BE INSTALLED" LISTING OF PAGE 2



FINAL INSTALLATION (2000 MODEL YEAR)
NUMBERS REFER TO "PARTS TO BE INSTALLED" LISTING OF PAGE 2

Reinstallation

Refer to proper model year *Shop Manual* for carburetors/
 DPM reinstallation procedure.

2000 Models

Ensure choke cable is re hooked to air silencer.

1999 and 2000 Models

Ensure throttle cable travel is properly adjusted.

CAUTION: Prior to starting engine, ensure spark
 plugs are properly gapped at 0.45 ± 0.05 mm
 (0.018 ± 0.002 in) **otherwise spark plug will pre-**
maturely stop firing.

TRA Clutch Recalibration

For no. 8 ramps installation, refer to *Warranty Bul-*
letins 99-9 and/or 2000-3, item B.

NOTE: Set calibration screws at position 3.

590 122 000

1.	404 161 966	Solenoid Plate	Plaque de solénoïde
2.	270 600 005	Solenoid Valve	Soupape solénoïde
3.	404 158 700	Cap	Capuchon
4.	210 251 180	Self-Tapping Screw (2)	Vis autotaraudeuse (2)
5.	512 059 286	Check Valve (3)	Soupape d'arrêt (3)
6.	414 222 400	T-Fitting (2)	Raccord en «T» (2)
7.	270 500 342	Hose (1 m (39 in))	Boyau (1 m (39 po))
8.	417 222 372	Ramp (3)	Rampe (3)
9.	420 960 770	Cap (3)	Capuchon (3)
10.	293 750 001	Locking Tie (5)	Attache (5)
11.	409 901 700	Protector Tubing (125 mm (5 in))	Gaine de protection (125 mm (5 po))
12.	404 161 965	Float Body	Cuve de flotteur
13.	404 137 000	Float Body O-Ring	Joint torique de la cuve de flotteur
14.	515 175 572	Solenoid Valve Harness	Faisceau de fils de la soupape solénoïde
15.	404 161 825	Compensation Jet 2.0	Gicleur d'appauvrissement 2.0
16.	512 058 921	Vacuum Collector End Cap	Bouchon du collecteur de dépression
17.	512 058 925	Vacuum Collector End Cap O-Ring	Joint torique du bouchon de collecteur de dépression
18.	404 161 826	Compensation Solenoid O-Ring (larger)	Joint torique du solénoïde d'appauvrissement (grand)
19.	404 161 827	Compensation Solenoid Plastic Spacer	Entretoise de plastique du solénoïde d'appauvrissement
20.	404 161 971	Compensation Solenoid O-Ring (smaller)	Joint torique du solénoïde d'appauvrissement (petit)
21.	512 059 402	Nylon Wire (1/2 m (20 in))	Fil de nylon (1/2 m (20 po))
22.	415 080 200	Tubing (102 mm (4 in))	Tube (102 mm (4 po))
23.	293 530 073	Quick Epoxy Kit	Nécessaire de colle époxy à prise rapide