



Meeting
Customer
Needs

Product Services Information

INSTALLATION INSTRUCTIONS

(Includes English and French)

BM18415

540 REAR PTO KIT

For 425, 445 and 455 Lawn & Garden Tractors

PARTS IN KIT

Qty.	Description
1	Welded PTO Arm
1	Rear PTO Gearbox
2	Ball Switch
1	PTO Shifter Guide
1	PTO Shifter Rod
1	PTO Shield
1	PTO Selector Label
1	M6 Rod End
1	PTO Selector Knob
	PTO Warning Label
1	Extension Spring
2	O-Ring
4	Tie Strap
2	M8x25 Bolt
2	M6 Nut
1	M6 Hex Flange Nut
2	M8 Nut
1	M6x16 Bolt
4	M12 Cap Screw
4	Washer
1	Spring Pin
1	AM878408 Gear Kit
1	PTO Module
1	PTO Jumper Wire (Not required for 425, 445, 455 units with Serial Numbers prior to M00425A032777 M00425B031423 M00445C031362 M00455A030005 M00455B030101 M00455C031478 M00455D030385 M00455E030001

C CAUTION: Read and follow all warnings and instruction on labels to prevent injury



IMPORTANT: Test standard 2000 rpm mid-PTO system to be sure it works properly (electrically and hydraulically) **BEFORE** installing 540 PTO kit. Do **NOT** install rear PTO until you are satisfied that the standard mid-PTO is operating properly.

PRIOR TO INSTALLATION

1. Obtain proper gasket sealant. Use TY15130 or TY15443 silicone rubber adhesive sealant.
2. Disconnect battery (-) cable.
3. Disconnect any attachment from forward PTO output shaft.
4. Disconnect seat switch and tail lights. Remove fenderdeck with seat.
5. Tip gas tank up on end to expose top of transaxle.
6. Spray wash or clean top of transaxle case to avoid debris from entering when case is opened.
7. Remove right side engine panel.

C CAUTION: Allow transaxle to cool before draining fluid. Hot fluid can cause serious burns

NOTE: *Transaxle contains approximately seven quarts of fluid.*

8. Remove transaxle drain plug and drain oil into a suitable container.

INSTALL PTO MODULE

NOTE: The blue and yellow mated connectors have already been disconnected if you have just installed AM121071 Wire Harness.

1. Locate blue and yellow mated connectors (B) and two open connectors (C) (3-pin and 4-pin) and bring them through the right side of the center console opening between the circuit board and the relay panel. Disconnect blue and yellow connectors.

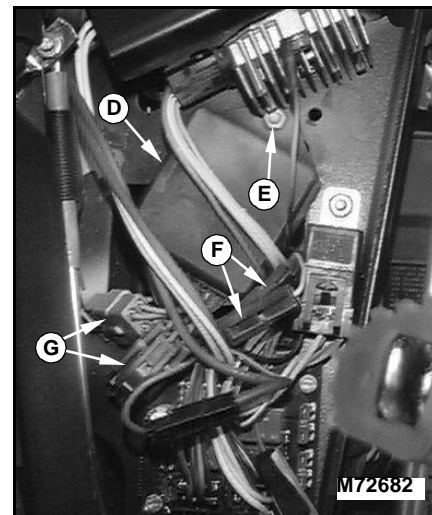
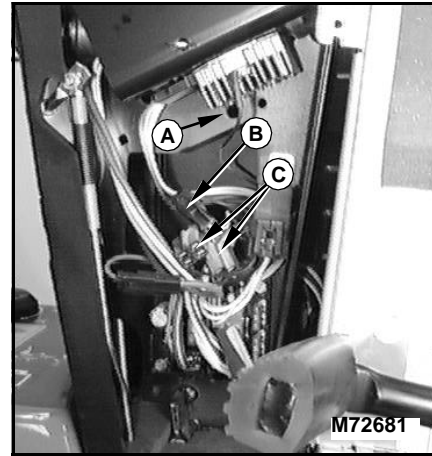
NOTE: PTO module **MUST** be installed with the wires pointing down to prevent condensation from entering and damaging the module.

2. Using one M6x16 bolt and one M6 nut (E), fasten the PTO module (D) to the right side pedestal support using the larger round hole (A).

3. Mate the blue and yellow single connectors (F) (just disconnected) to the single connectors on the PTO module.

NOTE: For units which have just installed AM121071 Wire Harness, mate the remaining open yellow and red single connectors to the single connectors on the PTO module.

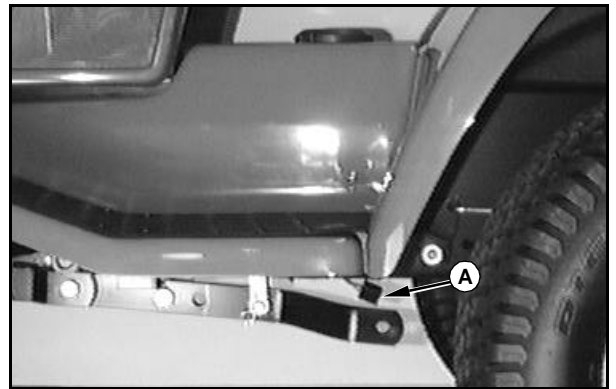
4. Mate the 3-pin and 4-pin connectors (G) to the corresponding open connectors on the PTO module.



INSTALL PTO JUMPER WIRE

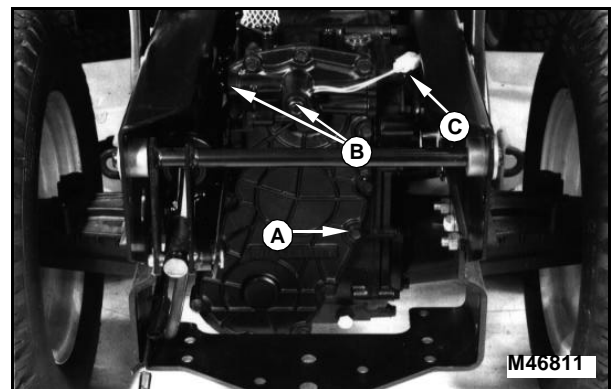
(Not required for 425, 445 and 455 units with serial numbers prior to M00425A032777, M00425B031423, M00445C031362, M00455A030005, M00455B030101, M00455C031478, M00455D030385, and M00455E030001 unless your can locate wire harness connector (A).)

1. Locate open wire harness connector (A) within left side frame rail, just ahead of rear wheel.
2. Connect PTO jumper wire to open connector and route jumper wire back through the "J" clamp, over the rear axle and exit rear of tractor.



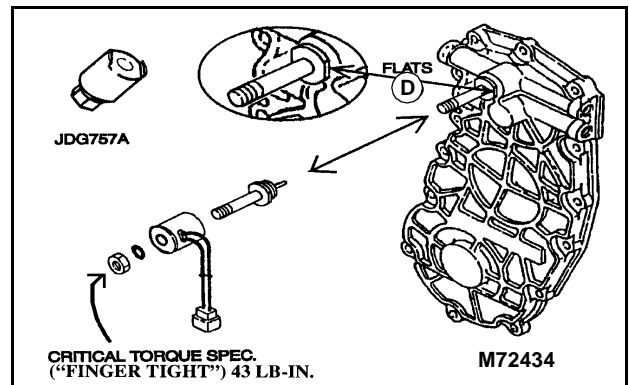
REMOVE TRANSAXLE COVER PLATE AND GEAR

1. Remove hitch plate.
2. Disconnect PTO solenoid connector (C).
3. Remove fourteen cap screws (A) and carefully pry transaxle cover from case.

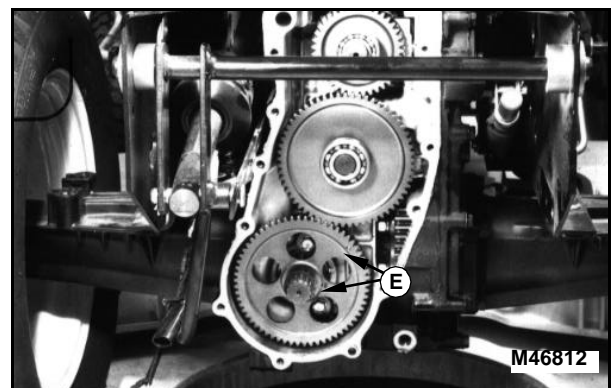


- NOTE: Remove armature assembly by placing wrench on "flats" (D) only. Special tool JDG757A is strongly recommended. See Technical Manual TM1517, pages 5-3-1 and 5-3-7 for description and proper use of tool.**
4. Remove PTO solenoid and relief valve assemblies (B).

NOTE: After removing armature, carefully remove valve components from cover. Be sure to note order and direction of valves for reassembly.



5. Remove snap ring and gear (E).

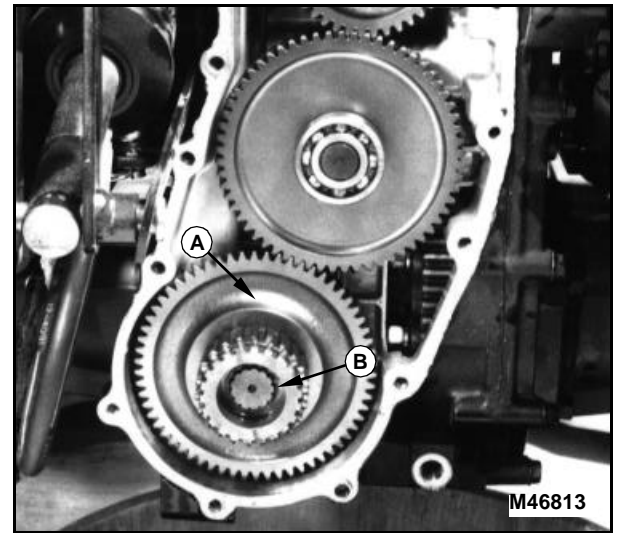


ASSEMBLY

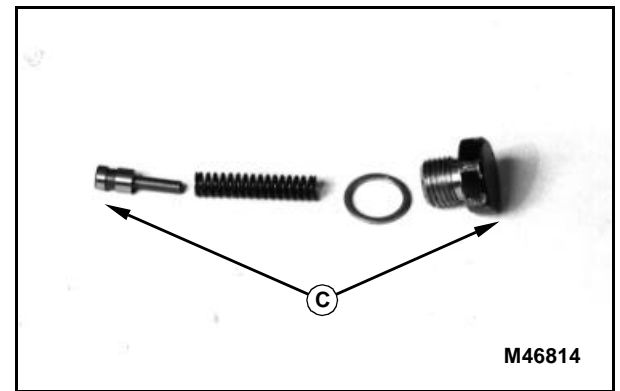
1. Clean transaxle sealing surface and ensure threaded holes are clean.

NOTE: The snap ring has a flat (sharp) side and a rounded side. Install with flat side facing away from gear. It may be necessary to apply pressure to the idler gear to align gear teeth.

2. Install gear assembly (A) and snap ring (B). Ensure snap ring (B) is fully engaged with groove in shaft.

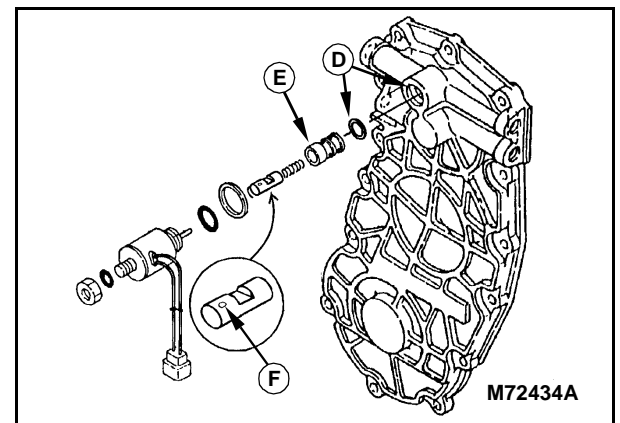


3. Assemble relief valve (C) in sequence as shown and install in new transaxle cover.

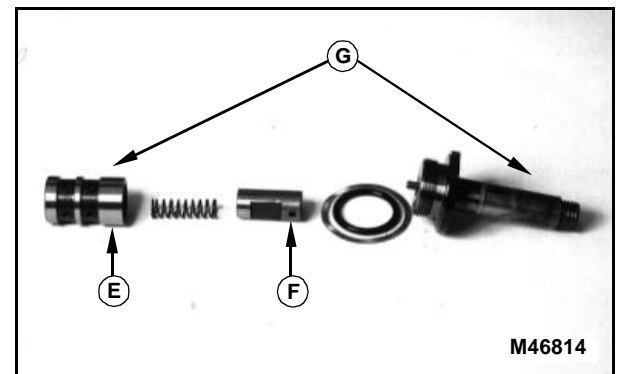


IMPORTANT: Check bottom of armature bore in original transaxle cover for “wave washer” (D). Wave washer (M806299) must be reinstalled in 540 PTO case.

Install sleeve, spring, and spool as shown, DO NOT reverse. Be sure large land (E) on sleeve and oil hole in spool (F) are facing away from gear case cover.

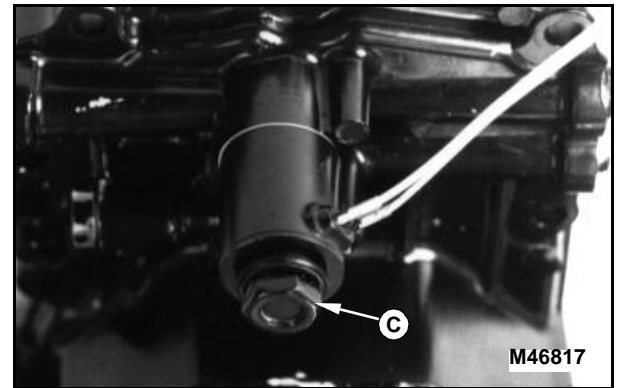
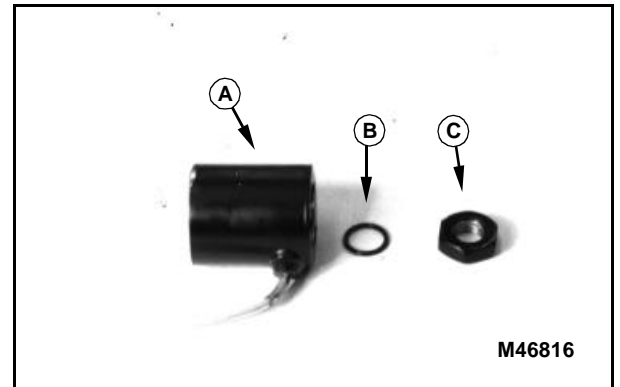


4. Assemble PTO solenoid armature (G) in sequence and position as shown and install in new transaxle cover. Torque to 15 ft-lb (20 N•m) using tool JDG757A. **MUST** be tightened by using “flats” on armature.

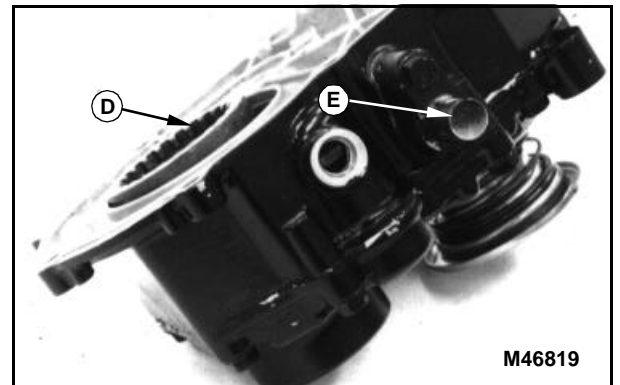


5. Slide coil (A) over armature, install o-ring (B) and nut (C). Position coil wire as shown at a 45 degree angle up and to the right. Torque nut (C) to 43 lb-in. (3.6 lb-ft. or 4.9 N•m) .

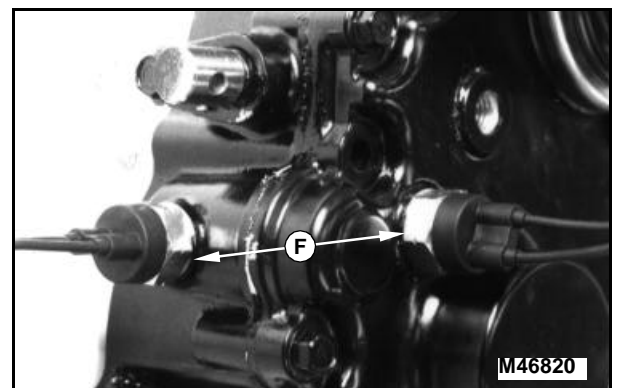
IMPORTANT: DO NOT OVERTIGHTEN OR ARMA-TURE DAMAGE WILL OCCUR.



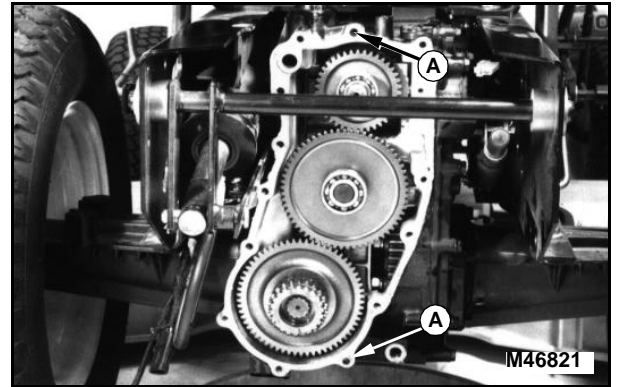
6. Use a thin screw driver or equivalent to rotate shift rod (E) and extend gear (D) just above the face of the cover.



7. Check to insure that o-rings are on switches. Install ball switches (F). DO NOT over-tighten torque 25 ft-lb. (34 N•m).

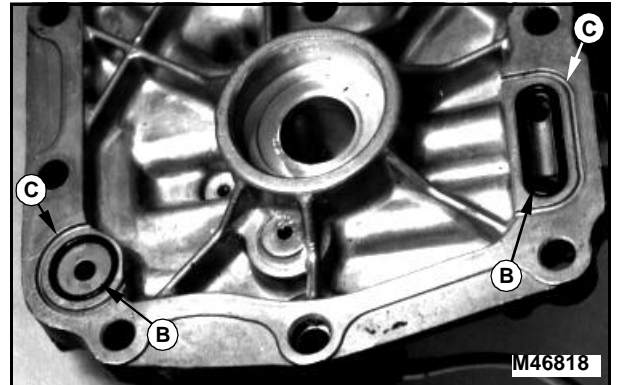


8. Install dowel pins (A) in transaxle (if removed).



9. Install o-rings (B) (removed from original cover) into new cover.

NOTE: Be careful not to get too much silicone in area of upper o-rings (B). Sealant should be applied outside of the grooves (C) surrounding each o-ring. DO NOT fill groove with sealant. Purpose of groove is to stop excess sealant from moving o-ring during re-assembly.



10. Clean transaxle cover sealing surfaces. Using proper sealant specified on page 2, apply a thin bead of sealant on the transaxle cover sealing surface.

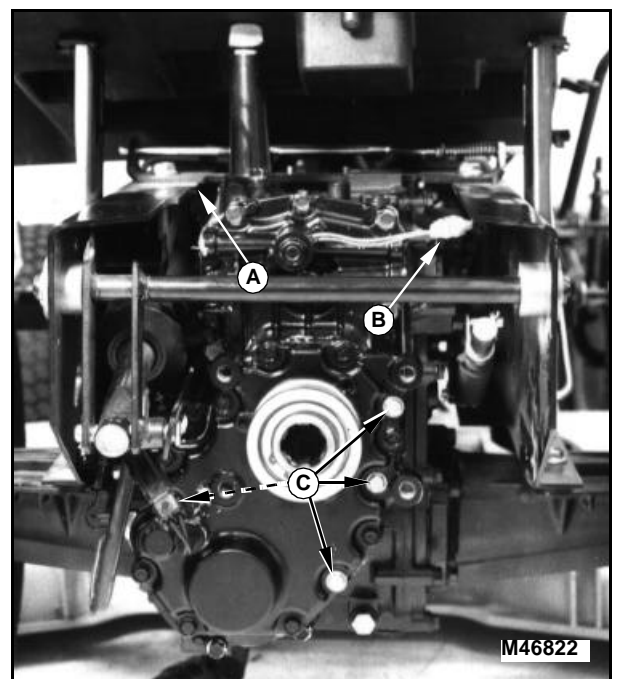
IMPORTANT: The cover should easily slide on within 4 mm (1/8-Inch) of the transaxle sealing surface, if not, repeat Step 6. DO NOT force or use bolts to draw the cover flush with the transaxle. Serious damage to the cover, transaxle or both can result.

11. Carefully position the cover on the transaxle and onto the lower dowel pin. Use a pry bar between the cover and frame (A) to carefully move the cover approximately 1.5 mm (1/16-Inch) to the right to align the top of the cover with the upper dowel pin.

NOTE: Four longer cap screws (C), supplied with kit are used to secure the cover to compensate for the additional height of the cover. Four of the original cap screws may be discarded.

12. Secure cover to transaxle with fourteen cap screws and torque to 18-20 ft-lb. (24-28 N•m).

13. Connect solenoid lead (B).



14. Install guide (A), shift arm (B), and secure shift arm to shift rod with pin (H).

NOTE: Hardware for guide should be installed with nuts to inside as shown. If tractor is equipped with 3-point hitch, nuts must be to outside.

15. Secure the longest lead connector of the wiring harness jumper wire to the rear shift ball (F) and the shortest connector to the side shift ball (G). Secure with tie straps as shown.

16. Assemble shifter as shown. Position shifter arm to the lowest detent.

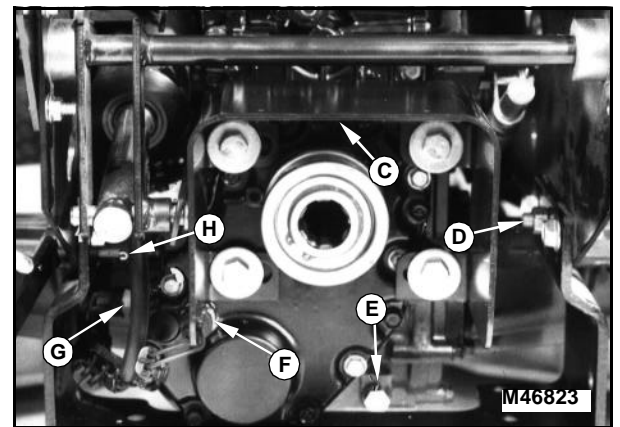
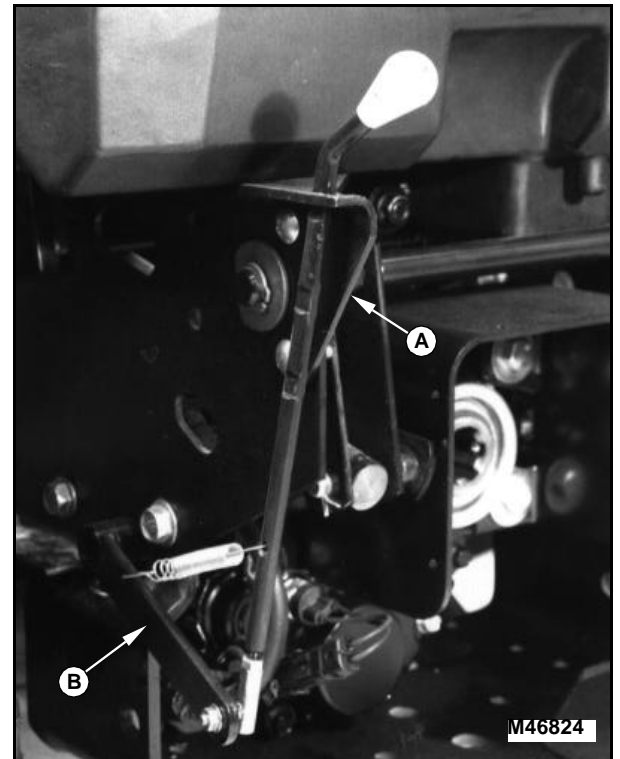
17. Adjust length of rod to engage slot of guide. Shifter should engage the guide easily without having to move the shifter up or down. Tighten jam nut.

18. Position PTO shield (C) and secure with four cap screws and washers.

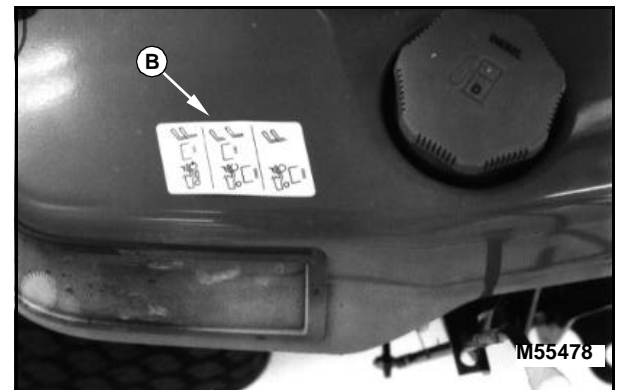
19. Position hitch plate and secure with five cap screws (D) and nuts.

20. Install transaxle drain plug (E). Refill transaxle with proper oil according to specifications.

21. Install items removed **PRIOR TO INSTALLATION** (including items removed if you installed AM121071 REAR PTO HARNESS KIT).



22. Place warning (A) and information (B) decals as shown.



C CAUTION: Read and follow ALL safety decals on your tractor and attachments to avoid injury.

REAR PTO OPERATION

Off Seat Operation:

- Engine OFF
- Lock Park Brake
- PTO Switch Off
- Rear PTO Lever UP for Rear PTO Operation (See decal on Left Fender Deck)
- Start Engine
- Pull PTO Switch ON

Rear PTO will operate.

Seat Switch, if activated, either by sitting on seat or pushing down on seat, will shut PTO OFF.

Repeat procedure to restart PTO.

On Seat Operation:

- On Seat
- Rear PTO Lever UP for Rear PTO Operation (See decal on Left Fender Deck)
- Start Engine
- Release Brake
- Pull PTO Switch ON

Rear PTO will Operate.

If you get OFF seat or push down on brake, PTO will shut off.

Repeat procedure to restart PTO.