SABRE YARD & GARDEN TRACTORS
1948GV/HV, 2148HV, 2354HV, 2554HV

TECHNICAL MANUAL

John Deere
Worldwide Commercial and
Consumer Equipment Division

TM1841 (03Mar00)

Litho in U.S.A

SPECIFICATIONS

Engine (CV19 / CV21 / CV23)

Engine	Kohler
Model Number	CV19 / CV21 / CV23
Horsepower	
CV19	14.17 kW (19 hp)
CV21	15.66 kW (21 hp)
CV23	17.15 kW (23 hp)
Displacement	
CV19/CV21	624 cm^3 (38.1 cu.in.)
CV23	677 cm^3 (41.3 cu.in.)
Oil Capacity (w/ oil filter)	1.9 L (2.0 qt.)
Cylinders	2
Stroke/Cycle	4
Valves	Overhead Valves
Lubrication	Fully Pressurized
Oil Filter	Single Element, Full Flow, Spin-On Filter
Cooling System	Air Cooled
Air Cleaner	Dual Stage
Muffler	Horizontal Discharge Below Frame

Engine (CV25)

Engine	Kohler
Model Number	CV25
Horsepower	18.6 kW (25 hp)
Displacement	725 cm^3 (44.0 cu.in.)
Oil Capacity (w/ oil filter)	2.0 L (2.1 qt.)
Cylinders	2
Stroke/Cycle	4
Valves	Overhead Valves
Lubrication	Fully Pressurized
Oil Filter	Single Element, Full Flow, Spin-On Filter
Cooling System	Air Cooled
Air Cleaner	Dual Stage
Muffler	Horizontal Discharge Below Frame

Fuel System

Aspiration	Natural
Fuel Tank Location	Rear
Fuel Tank Capacity	11 L (3 U.S. gal)
Fuel (minimum octane)	Unleaded Gasoline, 87 Octane
Fuel Delivery	Float-Type Side Draft Carburetor
Fuel Filter	Replaceable In-Line

Electrical

Ignition	Electronic Capacitor Discharge Ignition (CDI)
Type of Starter	Solenoid Shift
Charging System	Flywheel Alternator
Battery Type	BCI Group, U1
Battery Voltage	12 V
Battery Reserve Capacity at 25 Amp	38 minutes
Battery Cold Cranking Amps at -18°C (0°F)	295 amps

SPECIFICATIONS

GENERAL SPECIFICATIONS

Engine (19 hp)

Engine	Kohler
Model Number	CV19
Horsepower	14.17 kW (19 hp)
Displacement	624 cm^3 (38.1 cu.in.)
Bore	77 mm (3.03 in.)
Stroke	67 mm (2.64 in.)
Oil Capacity (w/ oil filter)	1.9 L (2.0 qt.)
Oil Filter	Single Element, Full Flow, Spin-On Filter
Cylinders	2
Stroke/Cycle	4
Valves	Overhead Valves
Lubrication	Fully Pressurized
Cooling System	Air Cooled
Air Cleaner	Dual Stage

Engine (21 / 23 hp)

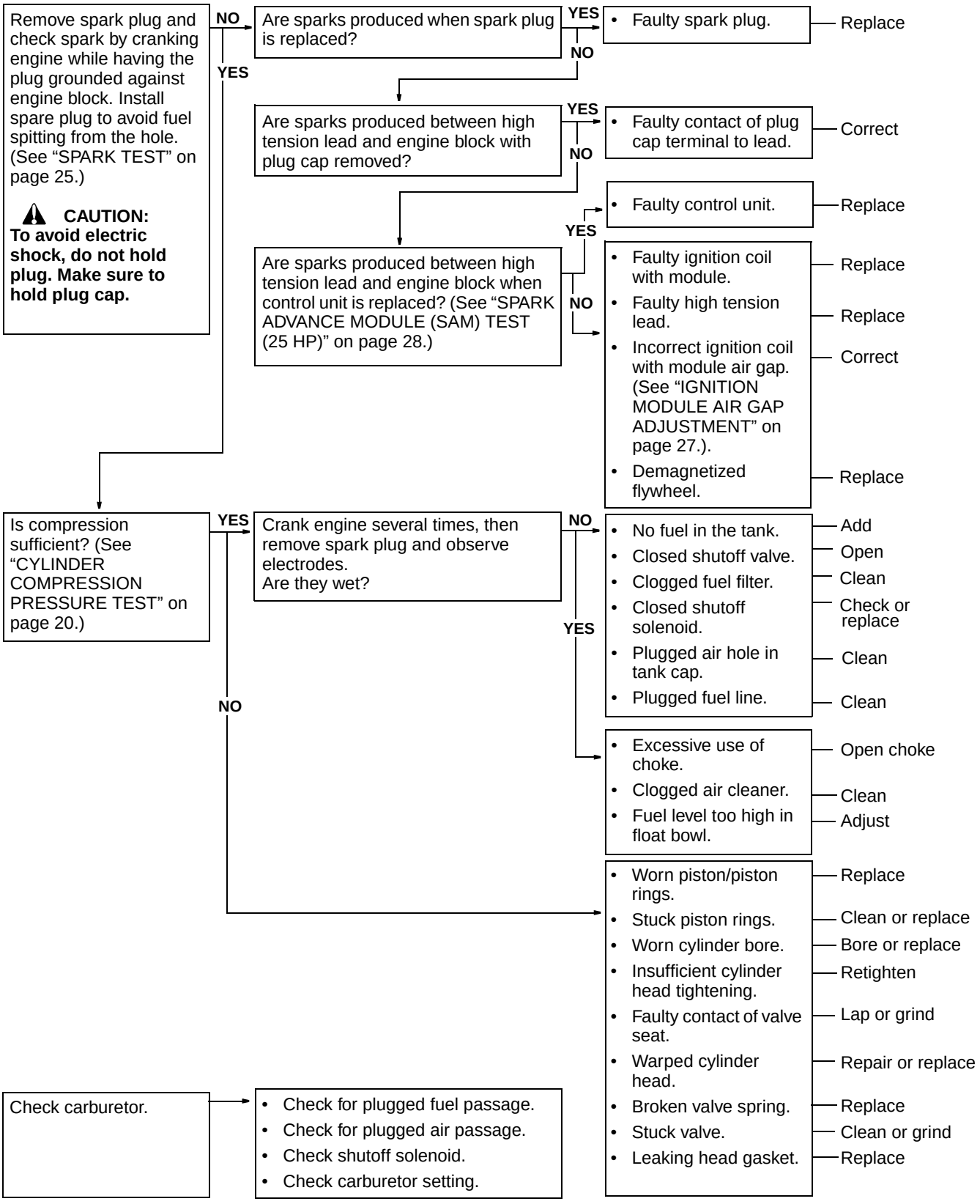
Engine	Kohler
Model Number	CV22
Horsepower	
CV21	15.66 kW (21 hp)
CV23	17.15 kW (23 hp)
Displacement	674 cm^3 (41.1 cu.in.)
Bore	80 mm (3.15 in.)
Stroke	67 mm (2.64 in.)
Oil Capacity (w/ oil filter)	1.9 L (2.0 qt.)
Oil Filter	Single Element, Full Flow, Spin-On Filter
Cylinders	2
Stroke/Cycle	4
Valves	Overhead Valves
Lubrication	Fully Pressurized
Cooling System	Air Cooled
Air Cleaner	Dual Stage

Engine (25 hp)

Make	Kohler
Model	CV25
Horsepower	18.4 kW (25 hp)
Displacement	725 cm^3 (44.0 cu.in.)
Bore	83 mm (3.27 in.)
Stroke	67 mm (2.64 in.)
Oil Capacity (w/ oil filter)	2.0 L (2.1 qt.)
Oil Filter	Single Element, Full Flow, Spin-On Filter
Cylinders	2
Stroke/Cycle	4
Valves	Overhead Valves
Lubrication	Fully Pressurized
Cooling System	Air Cooled
Air Cleaner	Dual Stage

ENGINE TROUBLESHOOTING GUIDE

ENGINE HARD TO START



Test Equipment:

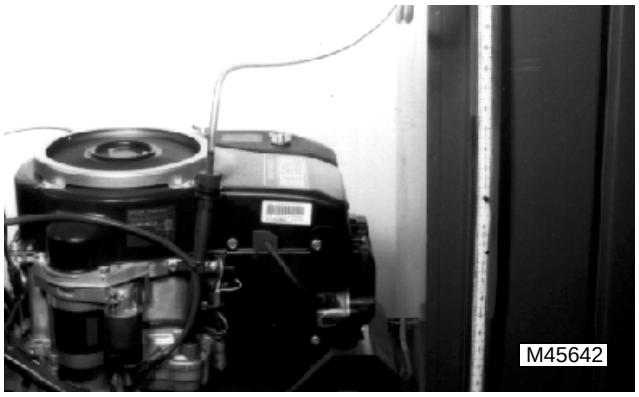
- JT05697 U-Tube Manometer Test Kit; or,
- JT03503 Crankcase Vacuum Test Kit

Procedure:

JT05697 U-Tube Manometer Test Kit—

1. Park machine on level surface.
2. Raise engine hood and remove dipstick.

IMPORTANT: Check oil fill cap and O-ring for cracks or damage, replace as necessary.



3. Install appropriate size rubber plug in dipstick tube.
4. Insert barbed fitting in rubber plug and connect clear line to barbed fitting.

IMPORTANT: DO NOT make connection between U-Tube Manometer and clear line BEFORE engine is running or fluid in manometer could be drawn into crankcase.

DO NOT turn engine OFF until clear line has been disconnected from U-Tube Manometer.

5. Align ruler “zero” markings with top of water level in U-tube.
6. Start and run engine at FAST idle.
7. Connect clear line to open U-Tube Manometer spigot.
8. Record crankcase vacuum reading. Manometer should show a **minimum vacuum of 15 cm (6 in.) of water movement**.
9. Run engine at SLOW idle. **DO NOT TURN ENGINE OFF!**
10. Disconnect clear line from open manometer spigot.
11. Turn engine OFF.
12. Remove plug from dipstick tube and install dipstick.

JTO3503 Crankcase Vacuum Test Kit—

1. Repeat Steps 1 – 4 in JTO5697 test procedure.

IMPORTANT: DO NOT make connection between test gauge and rubber plug BEFORE engine is running at FAST idle or gauge damage may result.

After test reading is made, DO disconnect test gauge WHILE engine is running at FAST idle to prevent damage to gauge.

2. Hold finger over rubber plug hole to keep oil from spraying out. Start engine and run at FAST idle.
3. Connect gauge, clear line, and barbed fitting to rubber plug.
4. Record crankcase vacuum reading. Gauge should show a **minimum vacuum of 15 cm (6 in.) of water movement**.
5. Disconnect barbed fitting, clear line, and gauge from rubber plug while engine is running at FAST idle. Hold finger over rubber plug hole to keep oil from spraying out.
6. Move throttle to SLOW idle and turn engine OFF.
7. Remove rubber plug and install dipstick.

Results:

If crankcase vacuum is BELOW specification, check the following:

- Breather reed valve clearance and condition.
- Breather port is obstructed.
- Rings, piston, and cylinder bore for wear or damage.

2. Disconnect the electrical connections and fuel supply hose from the carburetor.
3. Disconnect the governor and throttle linkage from the carburetor. Remove the carburetor.

NOTE: The carburetor has no serviceable parts. If the carburetor has any worn out or damaged parts, the carburetor must replaced.

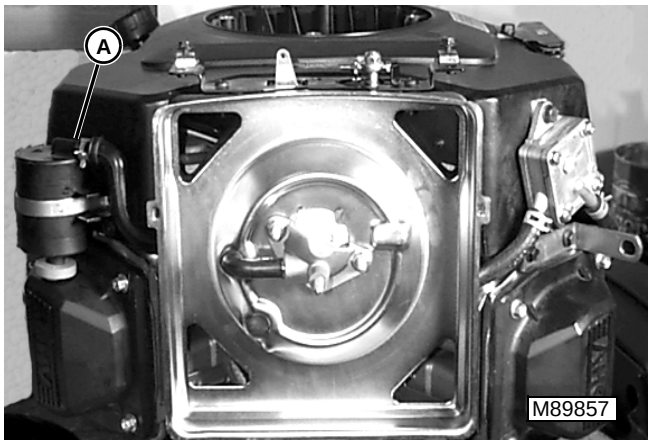
Installation:

NOTE: Installation is the reverse of removal.

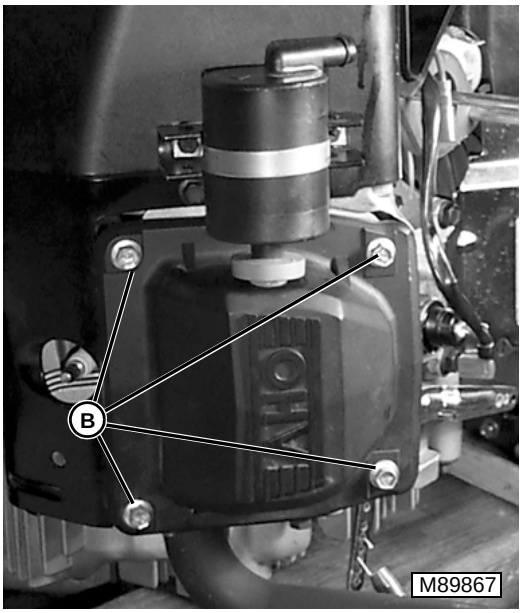
1. Replace the gaskets, and install the carburetor to the intake manifold.
2. Connect the electrical connections, and the fuel supply hose.
3. Install the air cleaner base. See “AIR CLEANER REMOVAL AND INSTALLATION” on page 31.

ROCKER ARMS REMOVAL AND INSTALLATION

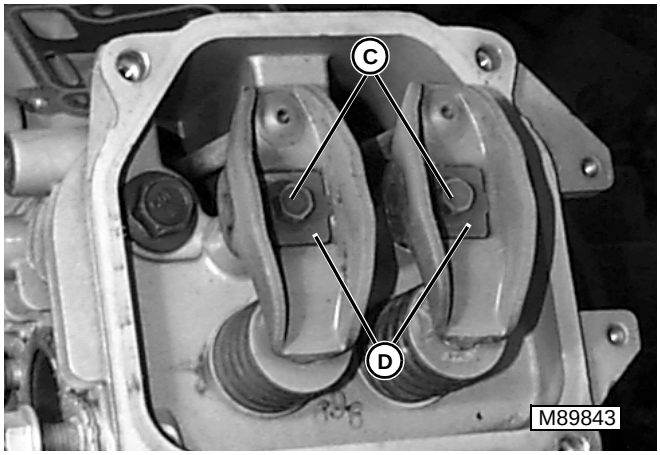
1. Remove air cleaner. It is not necessary to remove base.



NOTE: If removing the #1 valve cover it is necessary to disconnect the breather hose from the breather (A).

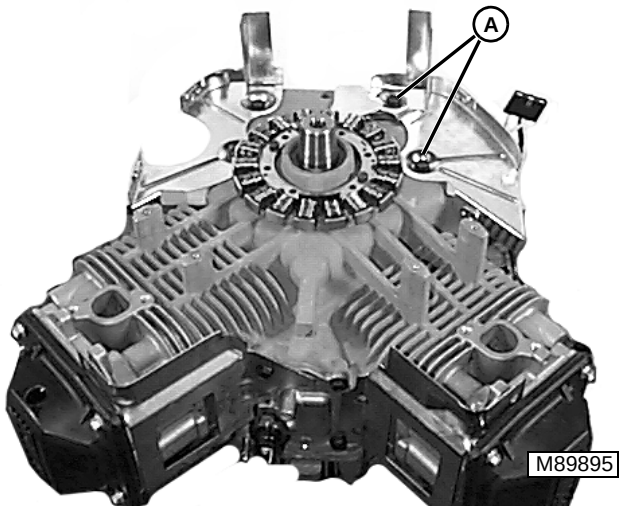


2. Remove four valve cover cap screws (B) and remove valve cover.

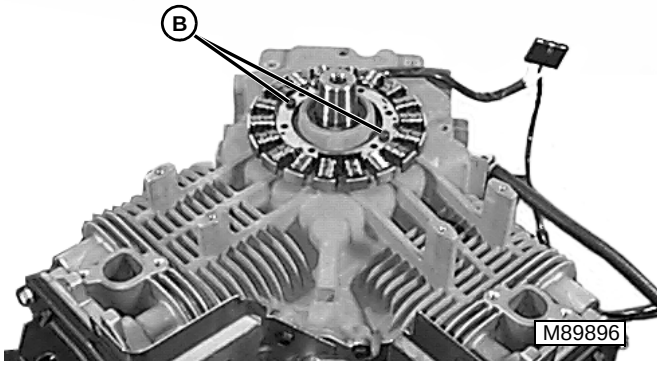


IMPORTANT: Mark rocker arms, pivot ball spacers, push rods, and lifters for assembly in original locations.

3. Remove cap screws (C) and pivot ball spacers (D).
4. Remove rocker arms.
5. Remove and inspect push rods. (See “PUSH ROD INSPECTION” on page 41.)



2. Remove cap screws (A) securing shields to engine block.



3. Remove screws (B) securing stator to engine block. Remove stator wire harness from groove in engine block. remove stator.
4. Inspect for damage.

Installation:

Installation is the reverse of removal.

Make sure that stator wire harness is in groove in engine block before installing shields.

Tighten stator cap screws to specification.

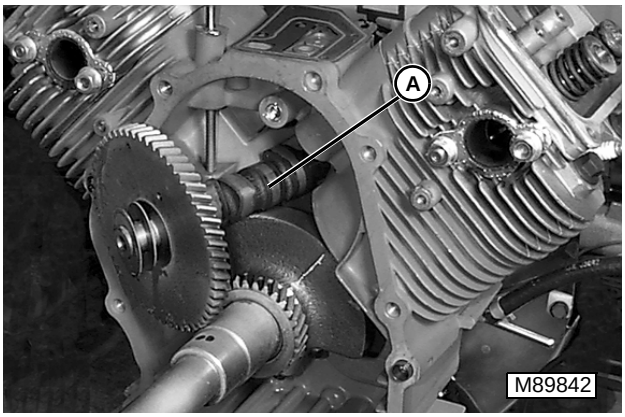
Adjust ignition module air gap per specifications. (See "IGNITION MODULE AIR GAP ADJUSTMENT" on page 27.)

Specifications:

Ignition Module Cap Screws . . . . . 4.0 – 6.2 N•m (35 – 55 lb-in.)
Stator Cap Screws . . . . . 4 N•m (35 lb-in.)

CAMSHAFT REMOVAL AND INSTALLATION

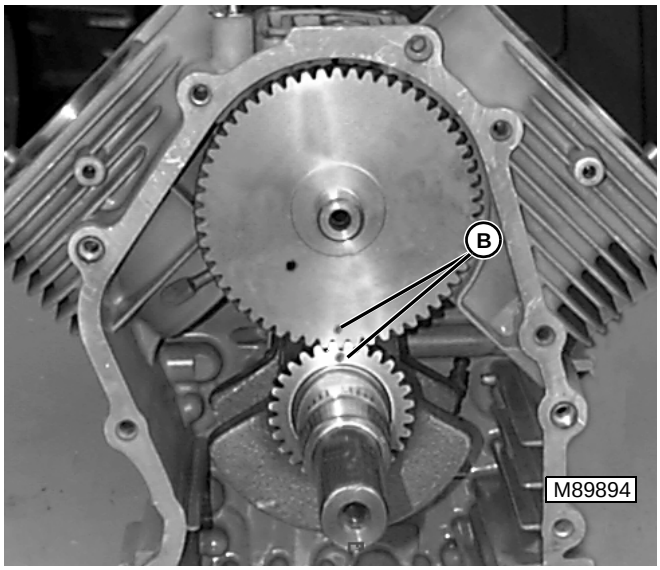
1. Remove oil pan.
2. Remove hydraulic lifters. (See "ROCKER ARMS REMOVAL AND INSTALLATION" on page 33.)



3. Remove camshaft (A).
4. Inspect camshaft closely, replace as necessary.

Installation:

1. Coat entire camshaft with engine oil.

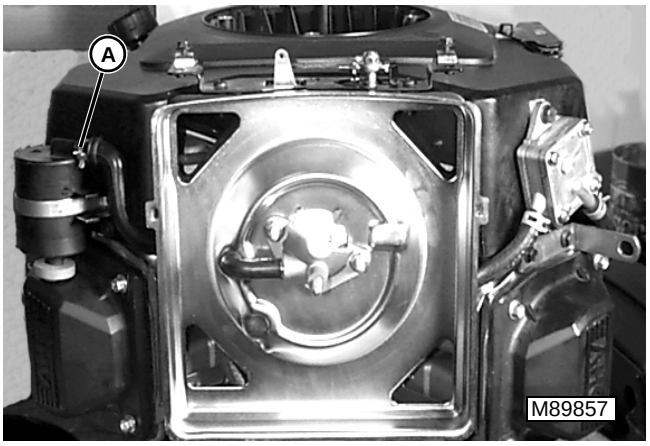


2. Install camshaft with timing marks (B) on camshaft gear and crankshaft gear aligned.
3. Check camshaft end play. (See "CAMSHAFT END PLAY" on page 44.)

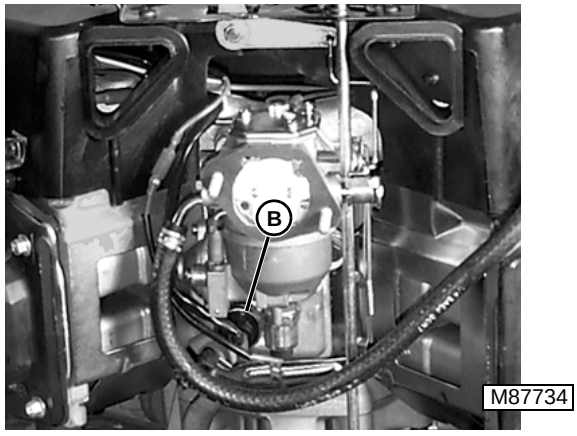
IMPORTANT: If oil pan does not seat fully on block DO NOT force it down. STOP and find out why it does not seat properly.

OIL PRESSURE SWITCH, REPLACE

1. Remove the carburetor air cleaner.



2. Disconnect the breather hose from the breather (A).
3. Remove nuts securing air cleaner base to carburetor. Remove the air cleaner base.



4. Remove oil pressure switch wire.
5. Remove oil pressure switch (B).

Installation:

Installation is the reverse of removal.

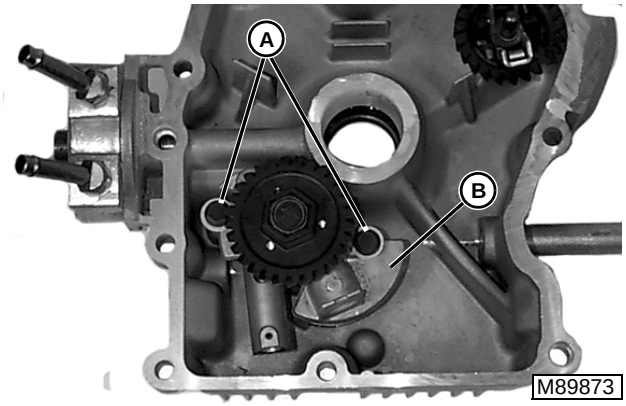
- Tighten oil pressure switch to specification.

Specification:

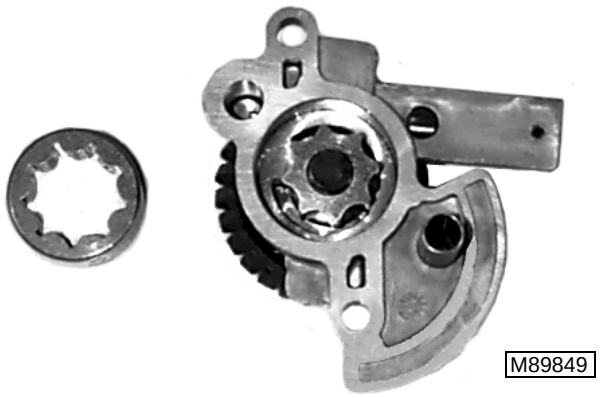
Switch Torque. . . . . 4.5 N•m (40 lb-in.)

OIL PUMP REMOVAL AND INSTALLATION

1. Remove oil pan. (See “OIL PAN REMOVAL AND INSTALLATION” on page 51.)



2. Remove cap screws (A) securing oil pump in oil pan.
3. Remove and clean intake screen (B).



4. Inspect pump, surface of crankcase cover, and rotor for scoring, discoloration, and wear.

NOTE: The oil pump has no serviceable components. If any pump components shows wear or damage entire oil pump must be replaced.

5. Replace oil pump as necessary.

Installation:

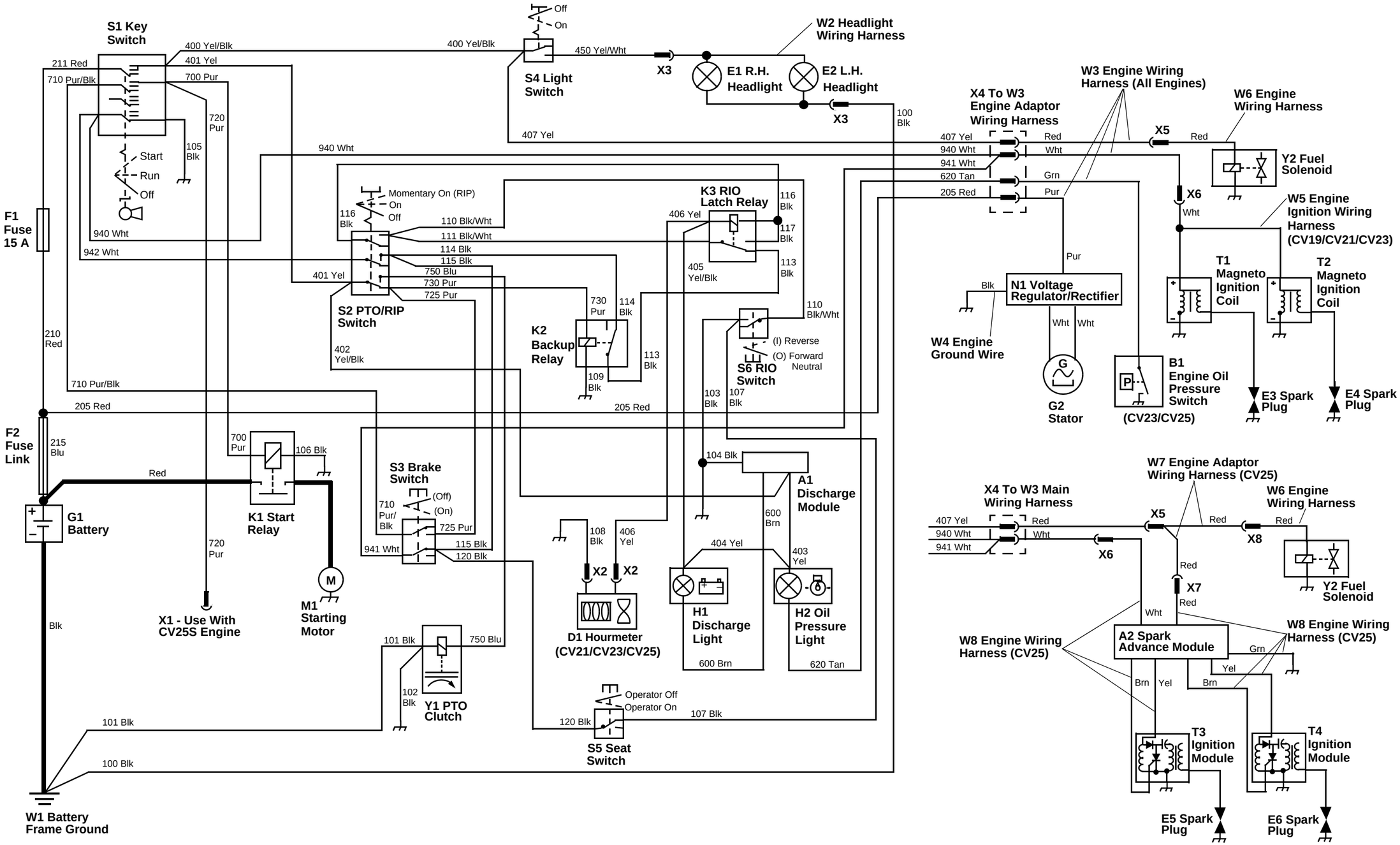
Installation is the reverse of removal.

1. Tighten oil pump cap screws to specification.

Specification:

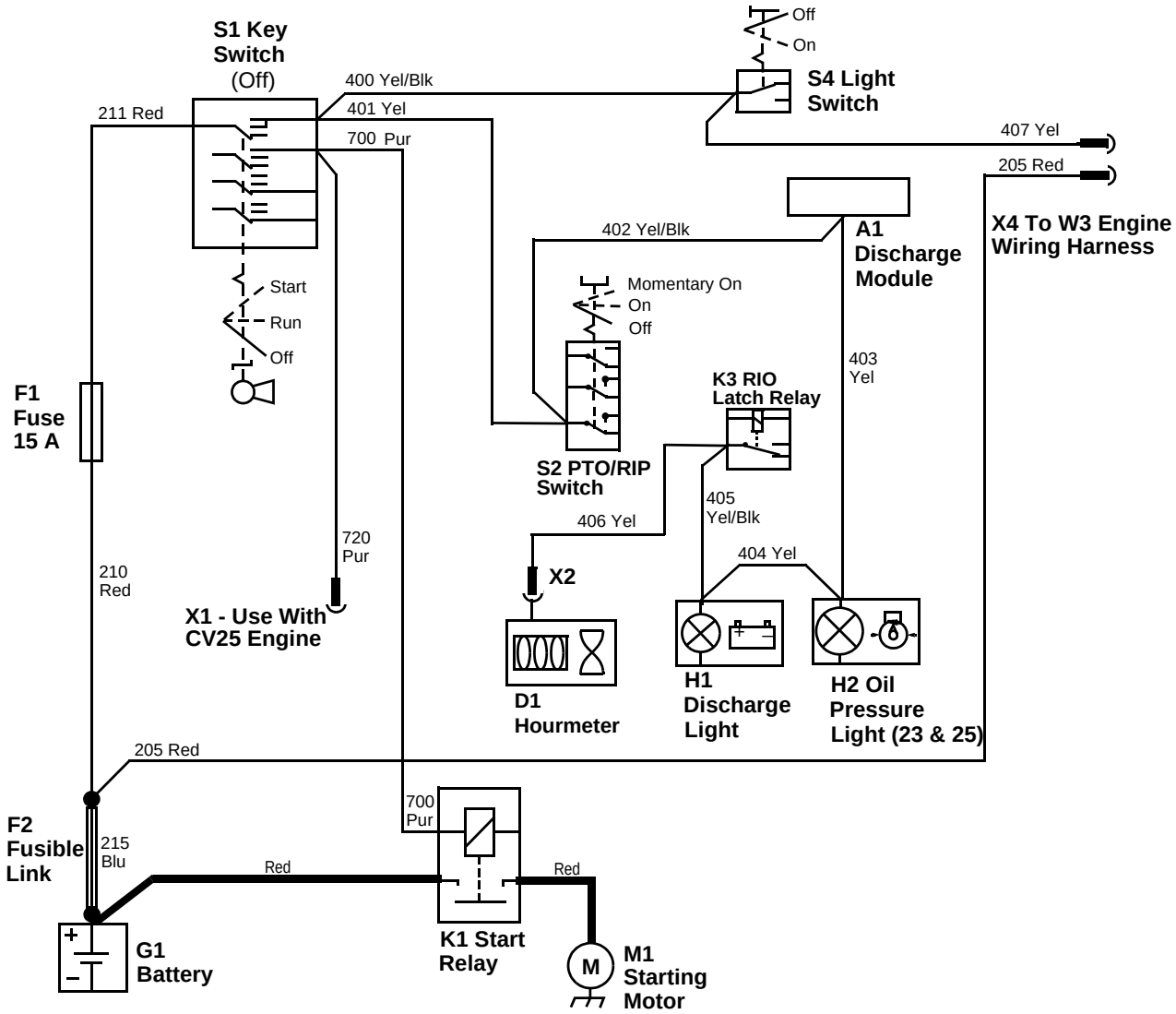
First Time Installation . . . . . 10.7 N•m (95 lb-in.)
All Reinstallations . . . . . 6.7 N•m (60 lb-in.)

ELECTRICAL SCHEMATIC

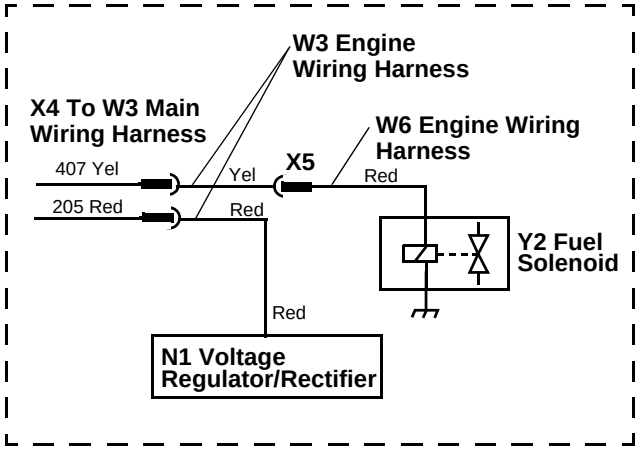


SE1 - STARTING	SE2 - IGNITION	SE3 - CHARGING	SE4 - ENGINE

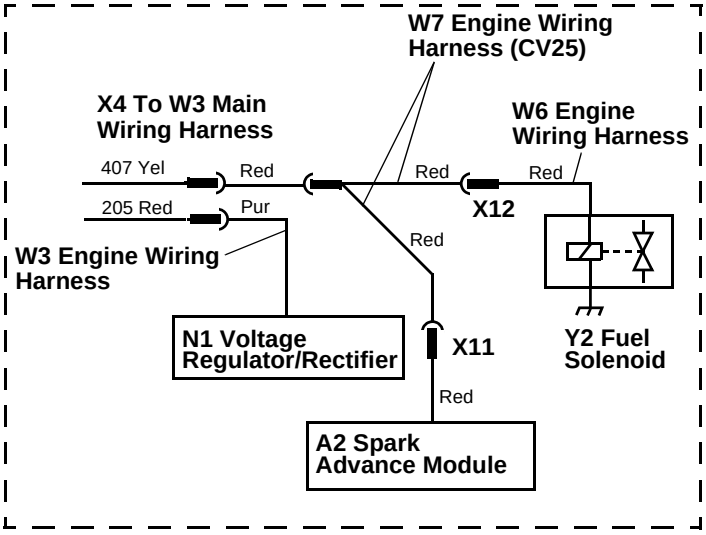
POWER CIRCUIT SCHEMATIC



SE1 - STARTING	SE3 - CHARGING

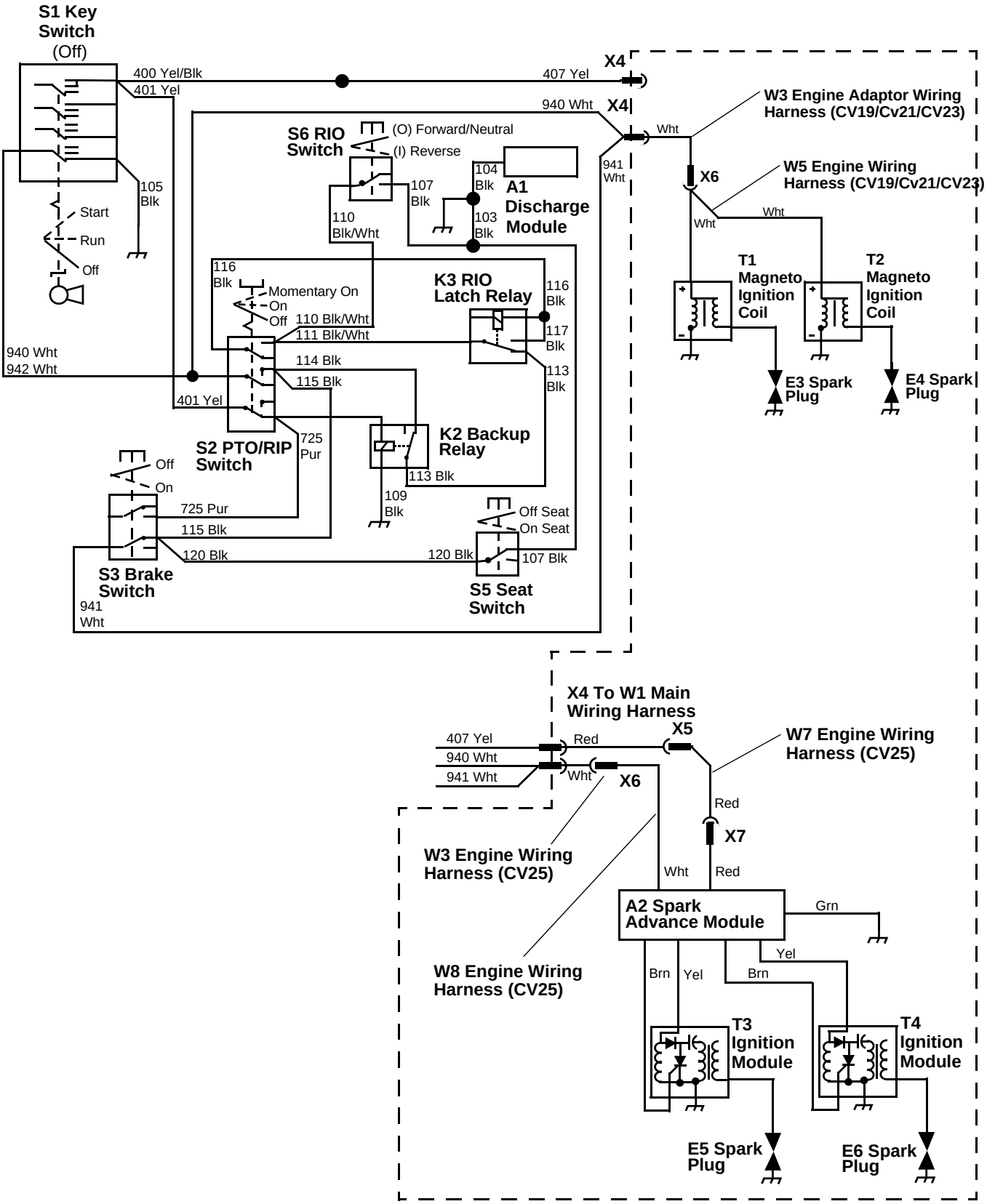


CV19/CV21/CV23 ENGINES

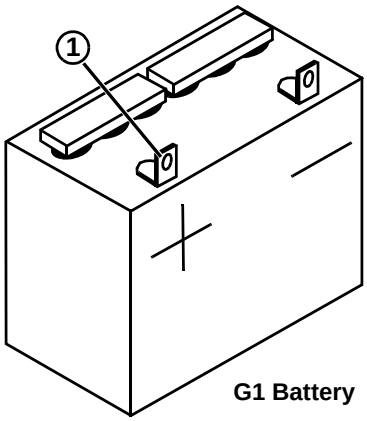


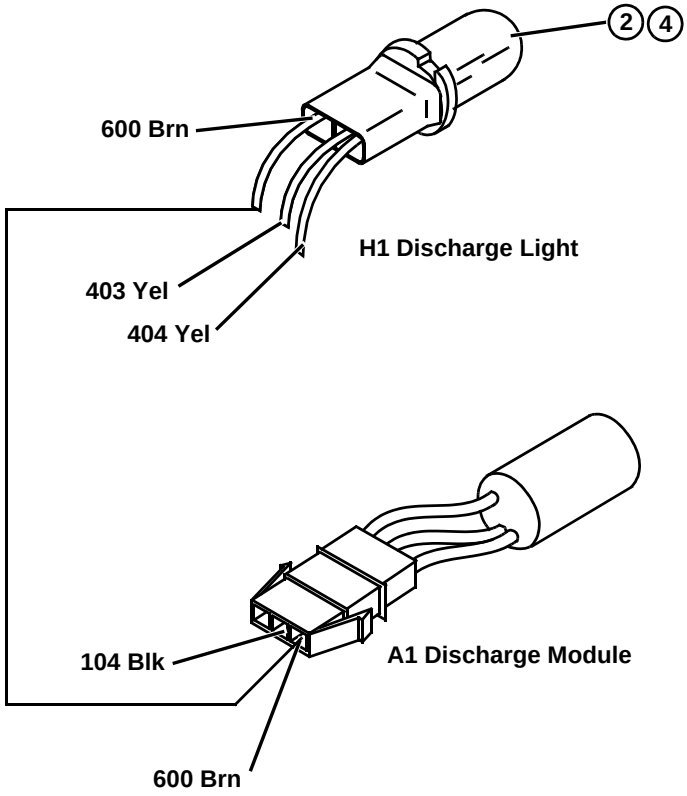
CV25 ENGINE

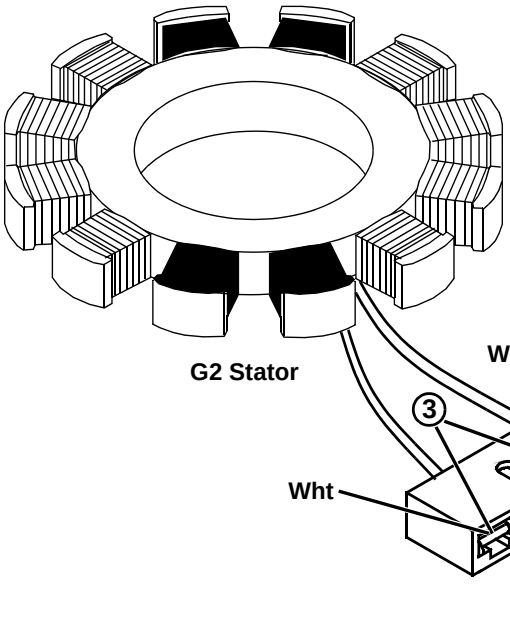
IGNITION CIRCUIT SCHEMATIC

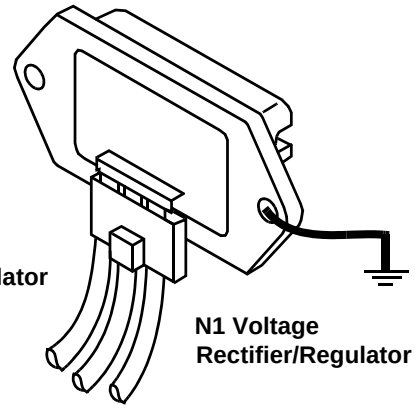


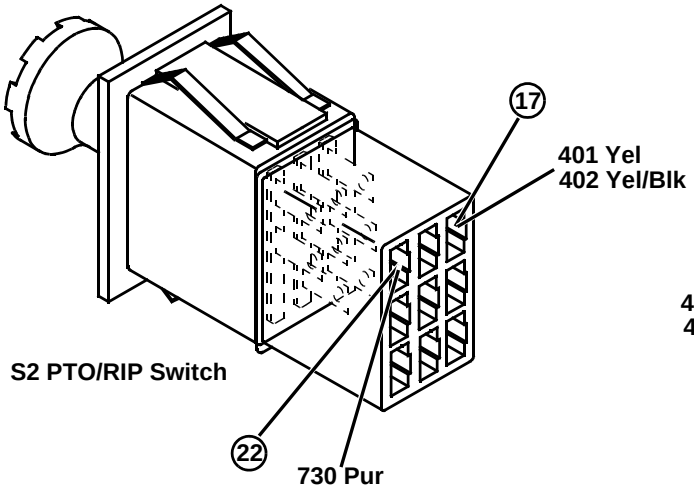
SE2 - IGNITION	SE4 - ENGINE

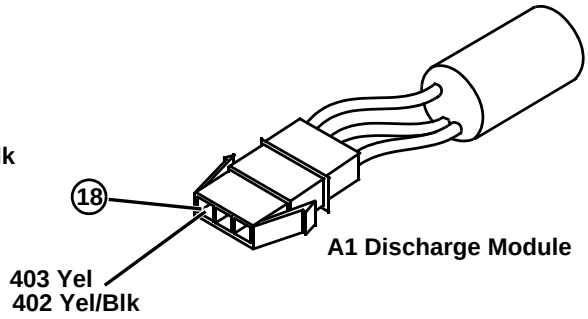

1
G1 Battery

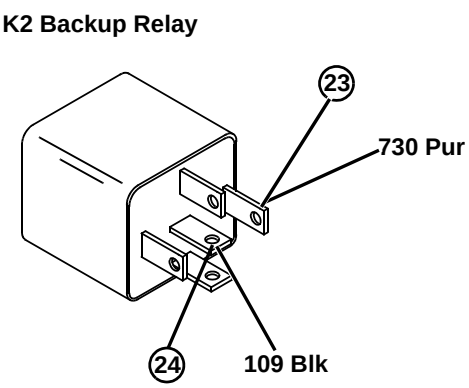

2
4
600 Brn
H1 Discharge Light
403 Yel
404 Yel
104 Blk
A1 Discharge Module
600 Brn

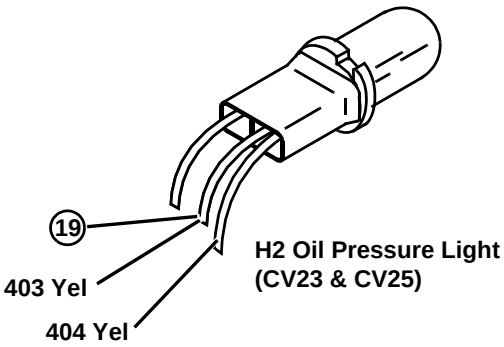

G2 Stator
Wht
3
Wht
Blk (B+)
5

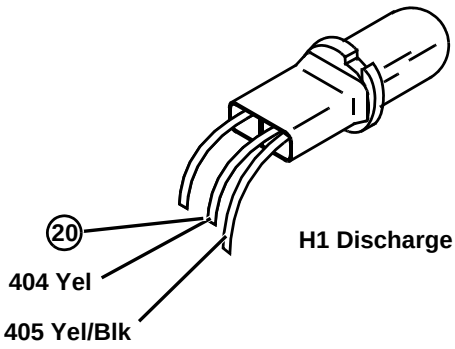

N1 Voltage Rectifier/Regulator Connector
N1 Voltage Rectifier/Regulator

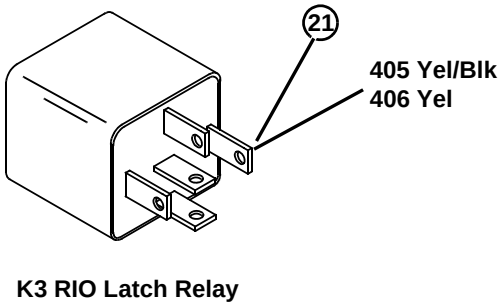

17
401 Yel
402 Yel/Blk
S2 PTO/RIP Switch
22
730 Pur


18
A1 Discharge Module
403 Yel
402 Yel/Blk


K2 Backup Relay
23
730 Pur
24
109 Blk


19
H2 Oil Pressure Light
(CV23 & CV25)
403 Yel
404 Yel


20
H1 Discharge Light
404 Yel
405 Yel/Blk


21
405 Yel/Blk
406 Yel
K3 RIO Latch Relay

STARTING MOTOR NO-LOAD AMPERAGE & RPM TESTS (CV19/ CV21/CV23 ENGINES)

Reason:

To determine starting motor condition under no-load conditions.

Required Tools:

- JT05791 Multitester
- JT02153 Current Clamp
- 12 Volt Battery
- Jumper Cables
- JTO7270 Hand-Held Digital Tachometer

Procedure:

> **⚠ CAUTION**
>
> **Do not clamp starting motor housing in vise or strike with a hammer. Clamp only on the mounting bracket. Starting motor contains two ceramic magnets that can be broken or cracked if the starting motor housing is hit, deformed or dented.**

NOTE: Check that battery is fully charged and of proper size to ensure accuracy of test.

IMPORTANT: Park machine on level surface.

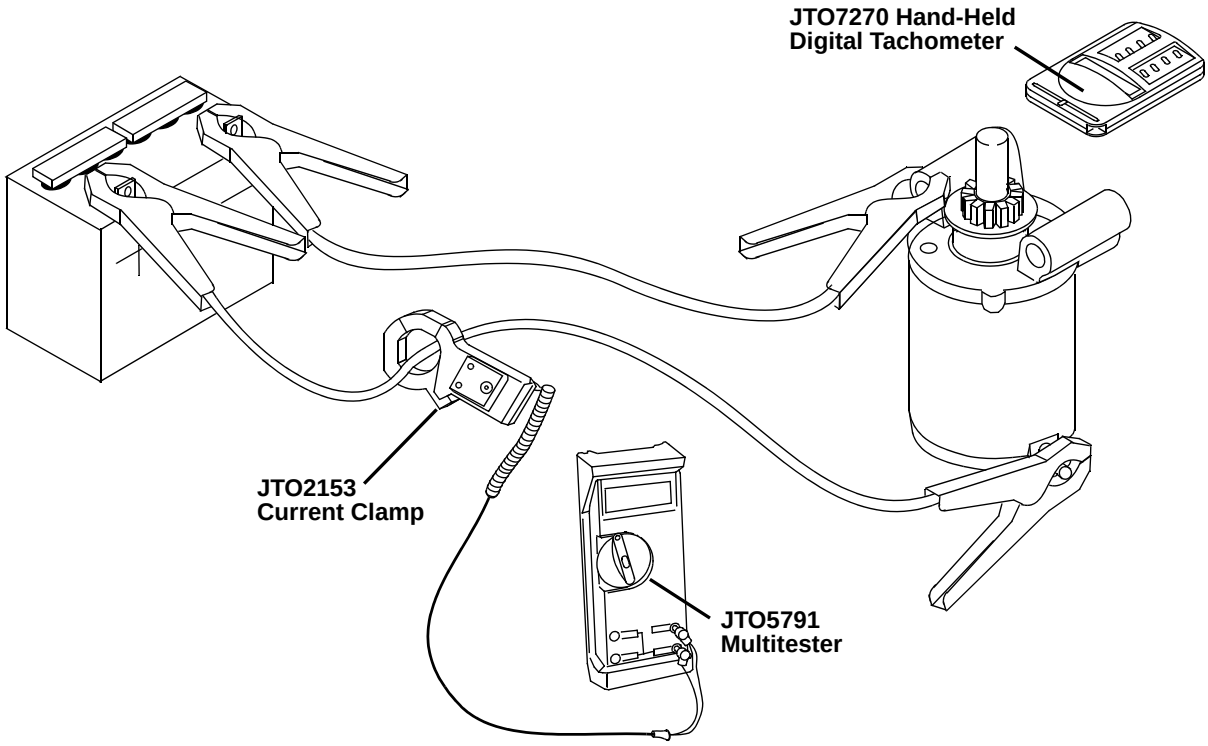
1. Turn key switch to OFF position.
2. Move Forward/Reverse pedals to NEUTRAL position.
3. Engage park brake.
4. Raise hood.
5. Remove starting motor.

IMPORTANT: When connecting wires and meter, ensure connections are not touching any surface where a ground short may occur. Wrap connections with electrical tape if necessary. Clamp the starting motor mounting bracket in a vise.

6. Connect the NEG jumper cable to the battery NEG post and the frame of the starting motor.
7. Connect the POS jumper cable to the POS post of the battery.

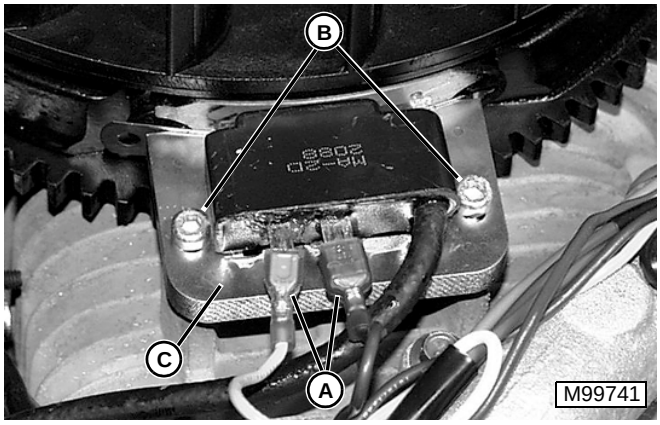
IMPORTANT: Connect current clamp RED lead to the VOLTS jack of the multitester and the BLACK lead of the current clamp to the COM jack on the multitester.

8. Clamp jaws of current clamp around the positive jumper cable.
9. Set the current clamp to 2000A and the multitester to 300mV.



ARMATURE WITH COIL (CV25)

Removal & Installation

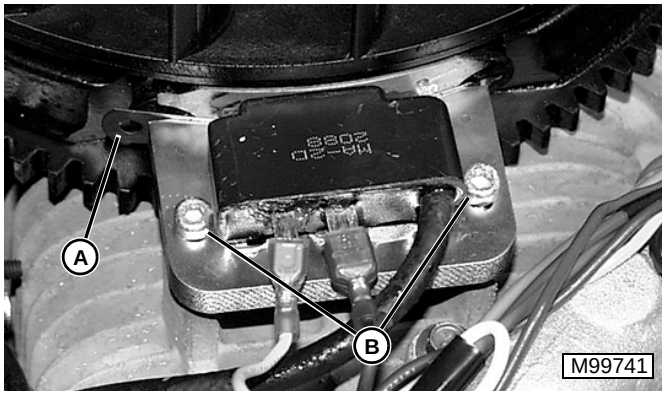


1. Remove blower housing.
2. Disconnect wiring leads (A).
3. Remove cap screws (B) and armature with coil (C).
4. Test armature with coil. (See *Test* procedure.)

Installation is done in the reverse order of removal.

- Adjust armature air gap. (See *Adjustment* procedure.)

AIR GAP ADJUSTMENT (CV25)

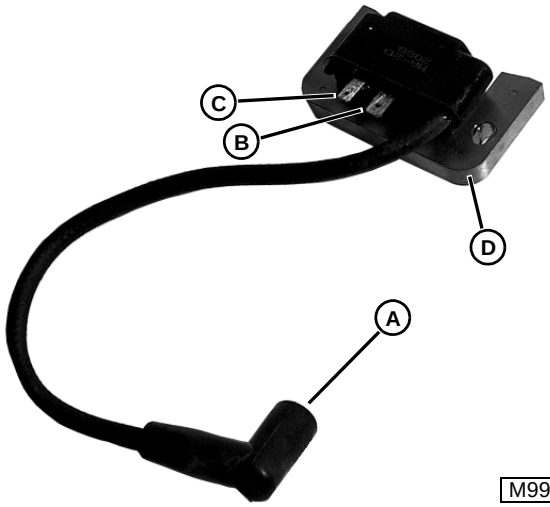


1. Center flywheel magnet under armature.
2. Insert a **0.2 - 0.3 mm (0.008 - 0.012 in.)** feeler gauge (A) between flywheel and armature.
3. Push armature against flywheel and tighten screws (B) to **7.8 N•m (69 lb-in.)**.
4. Turn flywheel to remove feeler gauge.

Specifications:

Air Gap . . . . . 0.2 - 0.3 mm (0.008 - 0.012 in.)
Armature Capscrews . . . . . 7.8 N•m (69 lb-in.)

ARMATURE TEST (CV25)



1. Measure resistance between each point as shown in the chart. If resistance is not within specification, replace armature with coil.

	A +	B +	C +	D +
A –		4.23 k	5.18 k	4.08 k
B –	4.23 k		1245	149.2
C –	5.18 k	1245		1096
D –	4.08 k	149.2	1096	

SPECIFICATIONS

Model Peerless 820
Speeds Forward 6
Reverse 1
Gear Speed Range
Forward 1st . . . . . 2.1 km/h (1.3 mph)
2nd . . . . . 3.0 km/h (1.9 mph)
3rd . . . . . 4.3 km/h (2.7 mph)
4th . . . . . 5.3 km/h (3.3 mph)
5th . . . . . 7.0 km/h (4.4 mph)
6th . . . . . 9.8 km/h (6.1 mph)
Reverse . . . . . 4.6 km/h (2.9 mph)

ADJUSTMENT SPECIFICATIONS

Clutch Spring Assembly (dimension between caps) . . . . . 31 – 33 mm (1.2 – 1.3 in.)

REPAIR SPECIFICATIONS

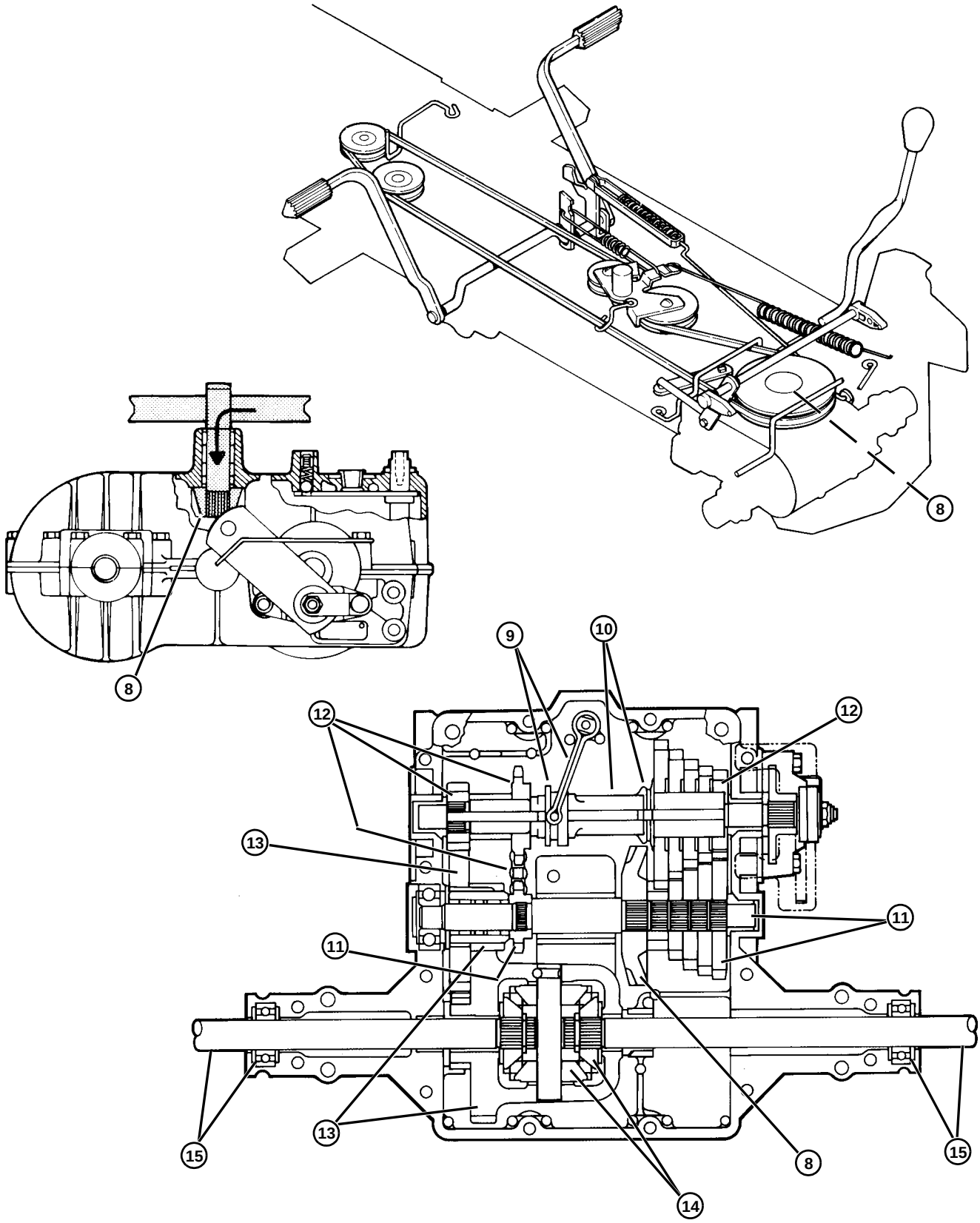
Shift Key Height . . . . . 10.16 – 11.68 mm (0.400 – 0.460 in.)
Transaxle Case Cover Inside Needle Bearing
(depth below inside case surface) . . . . . 3.8 mm (0.150 in.)
Pinion Gear Bearings (depth below each end of pinion gear) . . . . . 3.6 mm (0.142 in.)
Grease Capacity . . . . . 1.06 L (32 oz.)

TORQUE SPECIFICATIONS

Transaxle-to-Frame Nut Torque . . . . . 9 N•m (80 lb-in.)
Transaxle Case Cover-to-Case Cap Screw Torque . . 20.3 – 24.4 N•m (180 – 216 lb-in.)
Reduction Bearing Cap-to-Transaxle Case . . . . . 10.2 – 11.2 N•m (90 – 100 lb-in.)
Front Case Supports to Transaxle Case . . . . . 27 N•m (240 lb-in.)
Clutch Pedal Bracket-to-Frame . . . . . 34 N•m (300 lb-in.)

OTHER MATERIALS

Number	Name	Use
AN102562	Corn Head Grease	Apply to all internal parts of transaxle



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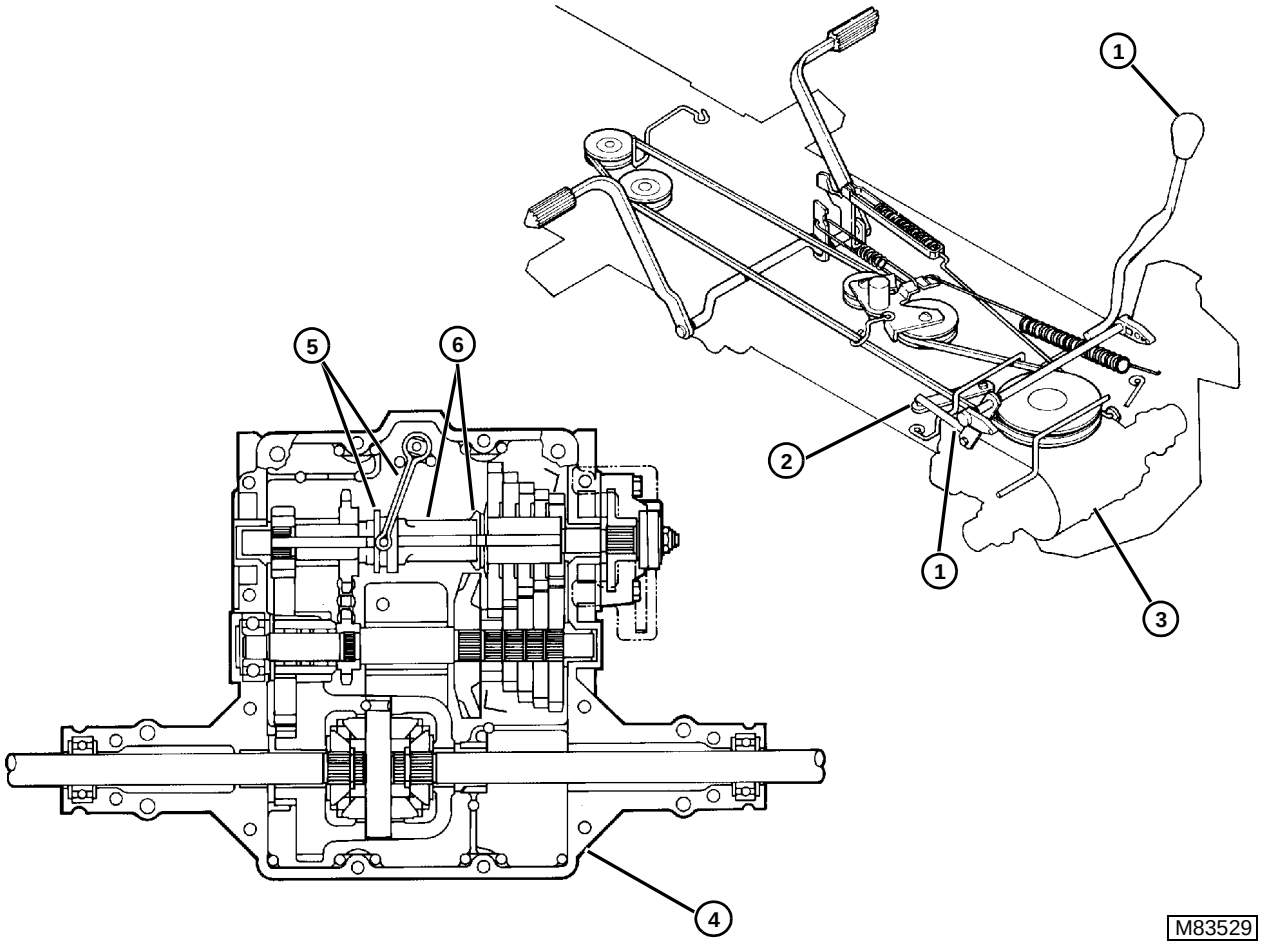
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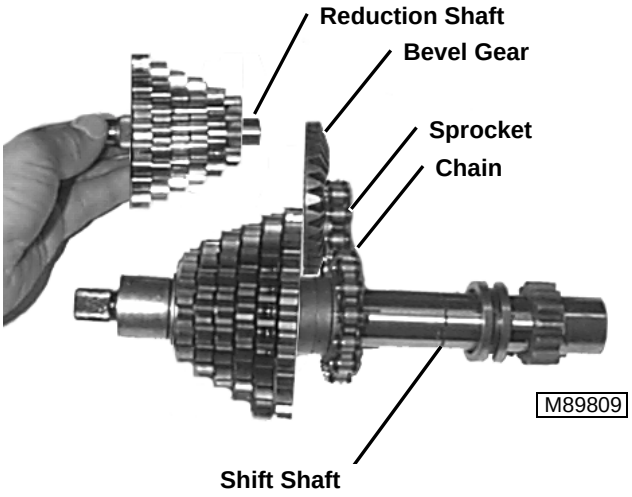
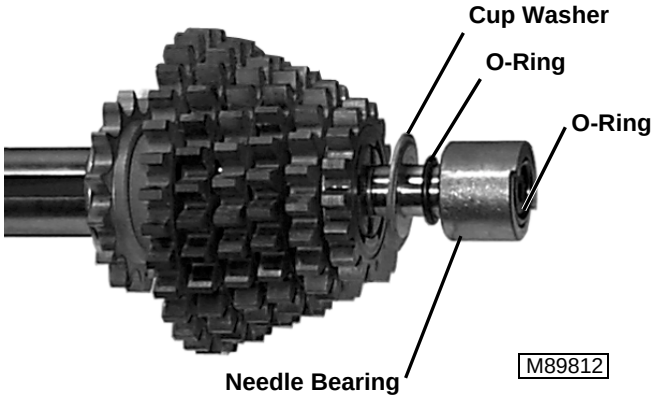
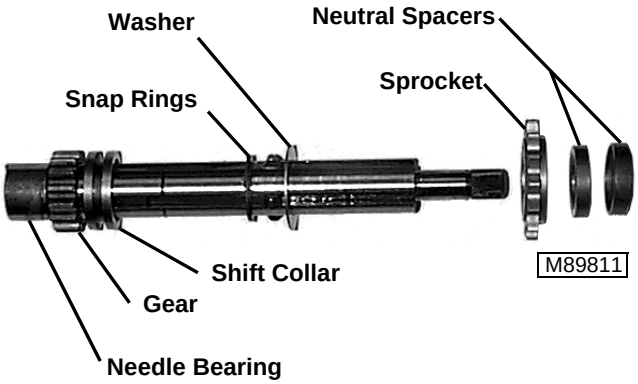


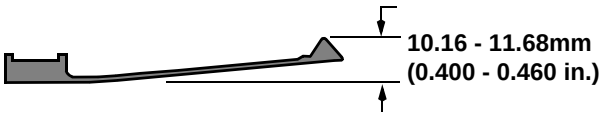
28. Withdraw reduction shaft through gear pack until it clears sprocket and bevel gear. Disengage and remove gear pack with reduction shaft.
29. Disassemble and clean gear pack and reduction shaft. Note orientation of gears and bevel gear.
30. Remove reduction shaft sprocket from chain.
31. Remove chain from sprocket on shift shaft.



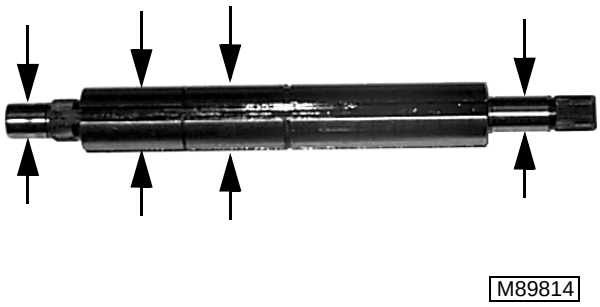
32. Remove needle bearing, O-rings, and cup washer from end of shift shaft.
33. Remove gear pack from shift shaft.



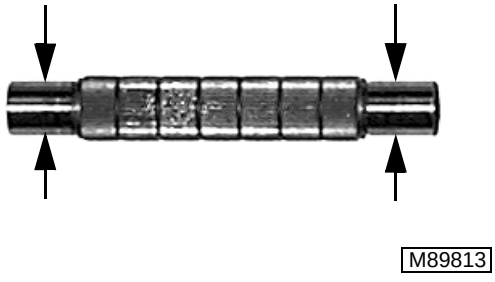
34. Remove neutral spacers from shift shaft.
35. Remove sprocket from shift shaft.
36. Remove washer from shift shaft.
37. Remove needle bearing, O-ring, washer, and gear from collar end of shift shaft.
38. Remove double snap rings from shift shaft.
39. Remove shift collar and keys from shift shaft.
40. Inspect all components for wear or damage. Replace as required.



41. Inspect keys for damage. Replace as required.
42. Place keys on a flat surface and measure from surface to top of key. If not in specification, replace key.



43. Inspect shift shaft for damage to splines, shift key slots, and bearing surfaces.
44. Measure needle bearing surfaces. If not in specifications, replace shift shaft.
45. Measure shaft O.D. in several places in gear pack area. If not in specifications, replace shift shaft.



46. Inspect reduction shaft for damage to splines, and bearing surfaces.

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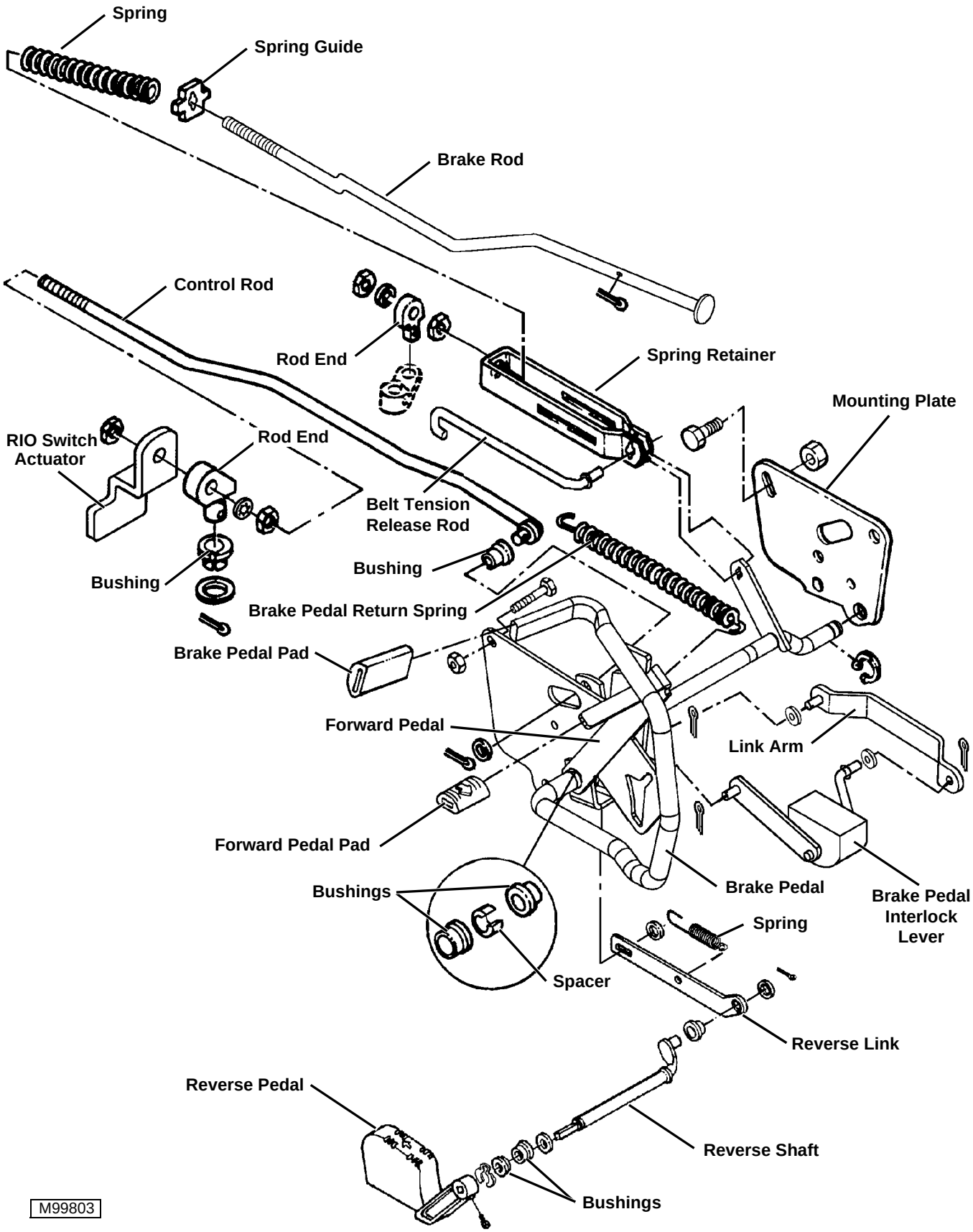
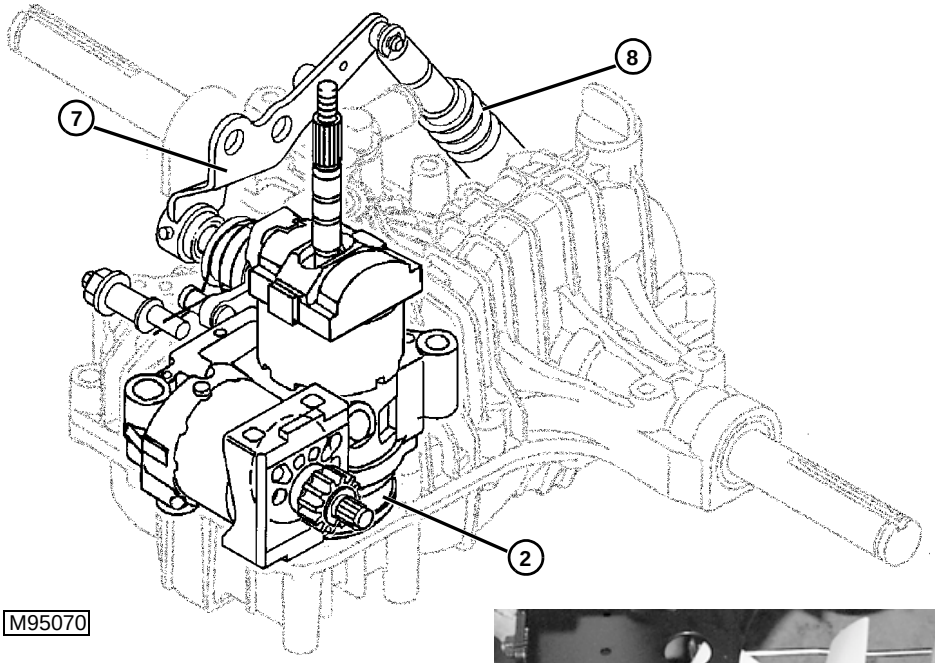
CONTROL PEDALS AND LINKAGE





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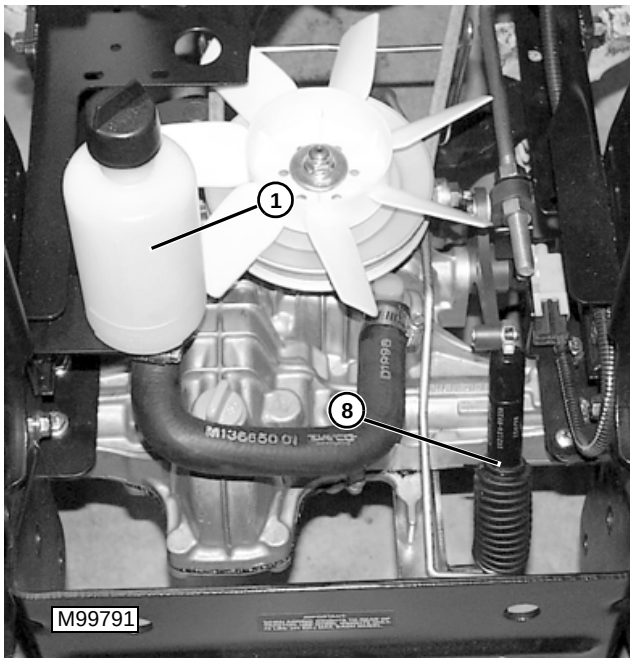

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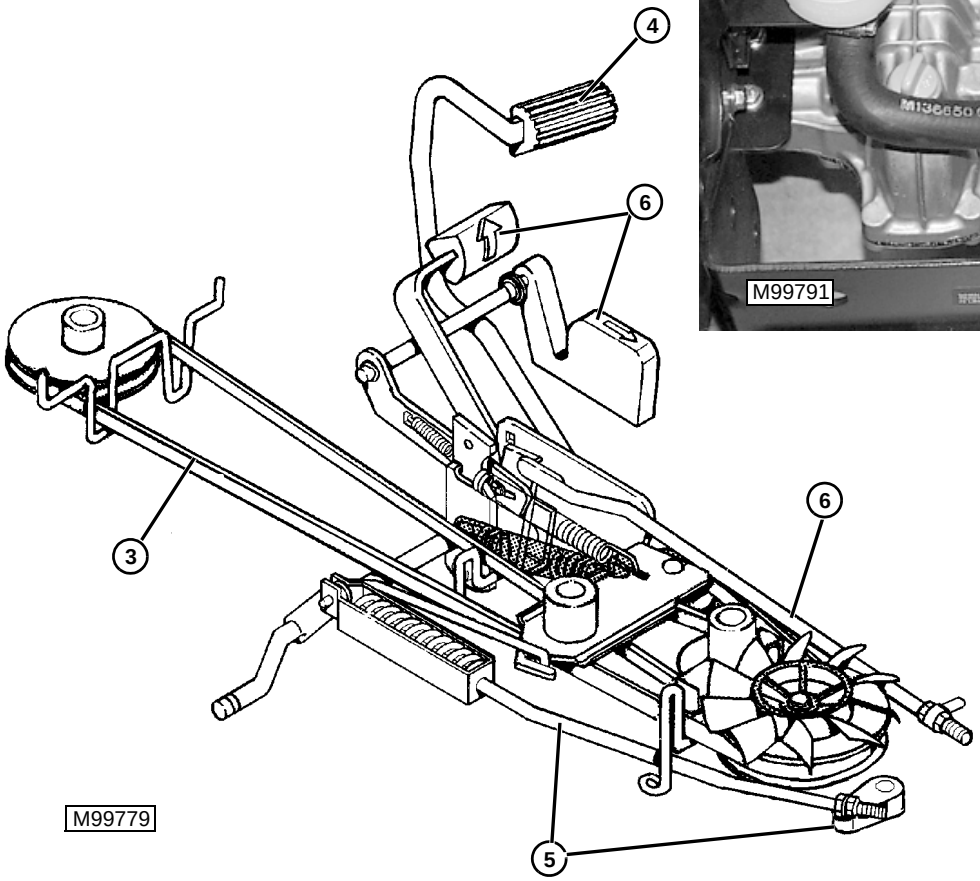

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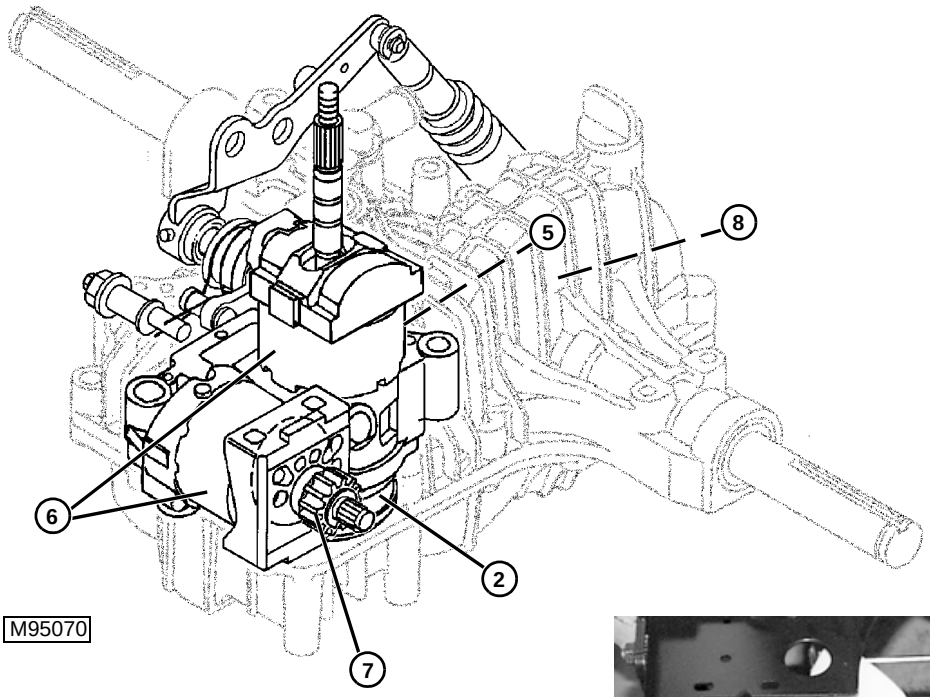

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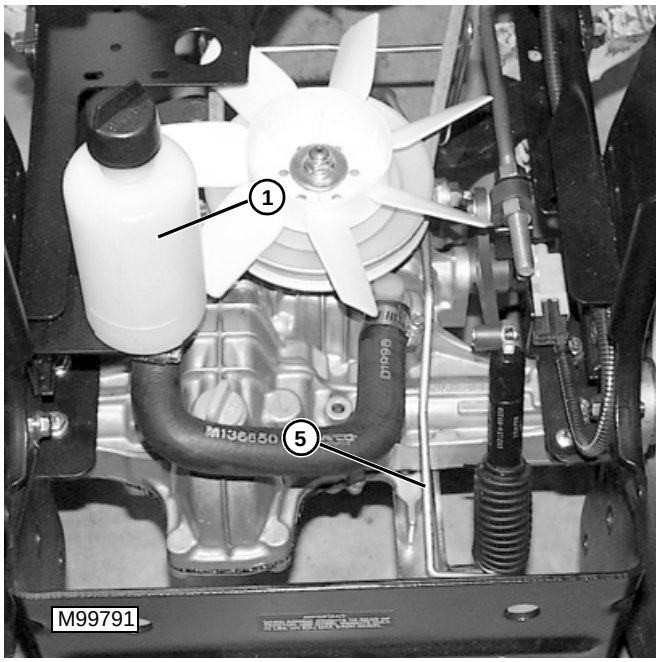

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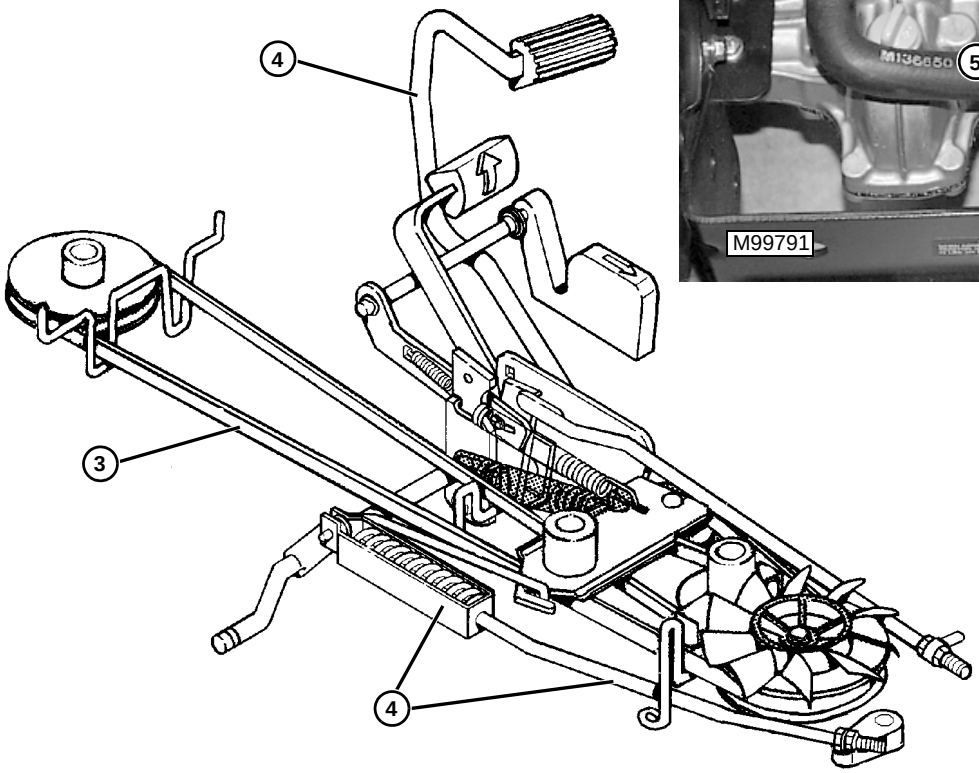

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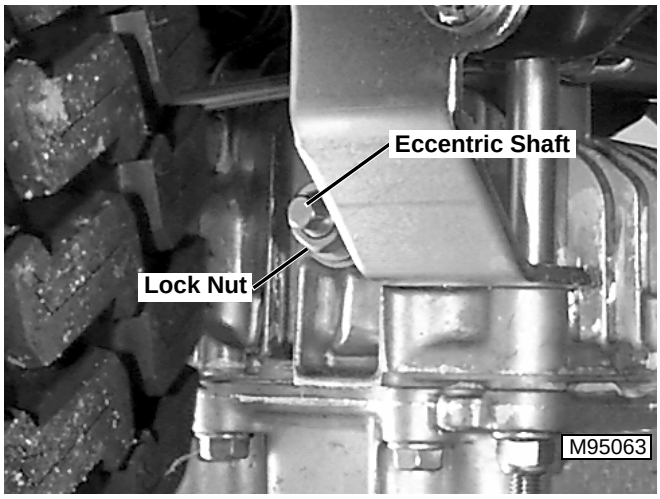


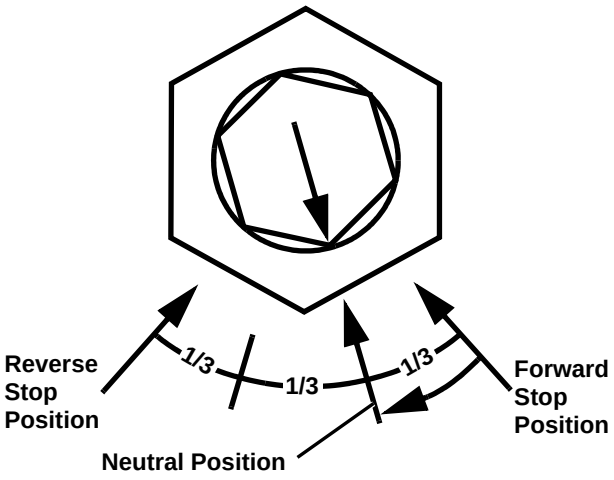
⚠ CAUTION

MOVING PARTS. Keep loose articles of clothing, hands and feet away from wheels during procedure to reduce the risk of personal injury.

NOTE: Engine will not start with seat switch disconnected. Use a jumper wire to bypass switch.

7. Remove right hand rear wheel.
8. Start and run engine at FAST idle.

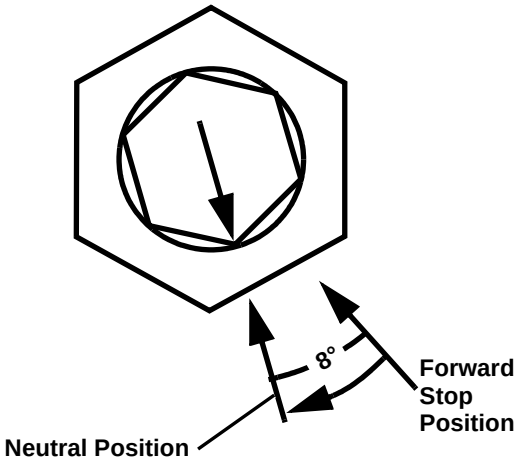
NOTE: If axle shafts do not rotate in reverse after turning the eccentric shaft one full turn, see steps 15 – 17.



9. Loosen lock nut and turn the eccentric shaft clockwise until the axle shaft(s) rotates in reverse. Mark the top of the eccentric shaft for position.
10. Turn the eccentric shaft slowly counterclockwise until the axle shaft(s) stops rotating. Mark the transaxle case as the reverse stop position.
11. Turn the eccentric shaft slowly counterclockwise until the axle shaft(s) rotates forward.
12. Turn the eccentric shaft clockwise until the axle shaft(s) stops rotating. Mark the transaxle case as the forward stop position.
13. Turn the eccentric shaft slowly clockwise until the mark is approximately **1/3** the distance between the forward and reverse stop positions. This is neutral position.
14. Hold eccentric shaft with wrench and tighten lock nut.

NOTE: If the axle shafts do not rotate in reverse although the eccentric shaft has been turned one full turn, adjust neutral as follows:

15. Turn eccentric shaft counterclockwise until axle shaft(s) rotate forward.

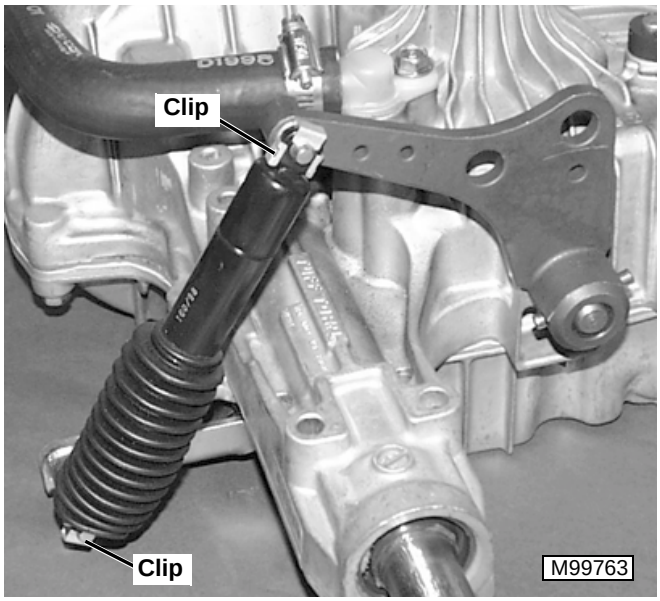


16. Turn eccentric shaft clockwise until the axle shaft stops. Mark the top of the eccentric shaft and transaxle case.
17. Turn the eccentric shaft clockwise approximately **8**° from forward stop position.
18. Hold eccentric shaft with wrench and tighten lock nut.

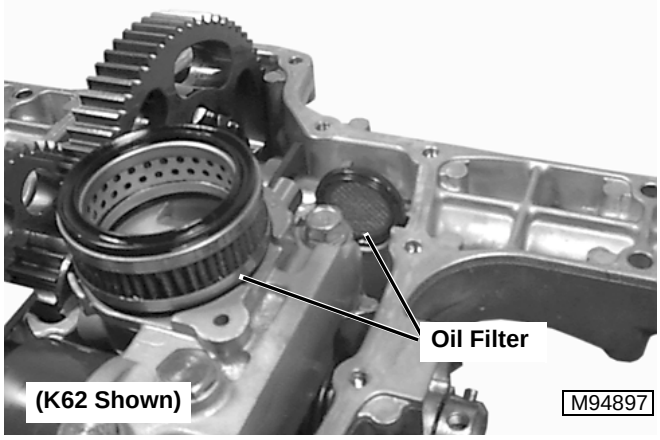
PEDAL HEIGHT ADJUSTMENT

Reason:

To insure full travel speeds in forward and reverse directions. This also insures that the transaxle swash plate and control arm will not act as a mechanical stop

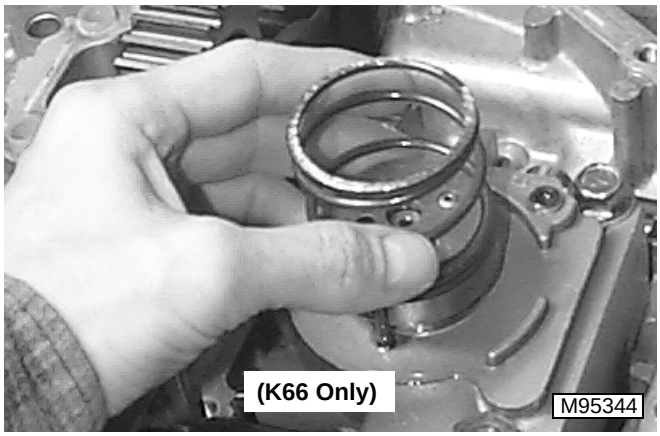


7. Remove two clips from shock absorber. Remove shock absorber.
8. Turn transaxle over and support it with blocks.
9. Remove five bolts and 12 screws securing lower case to upper case. Remove lower case from transaxle.

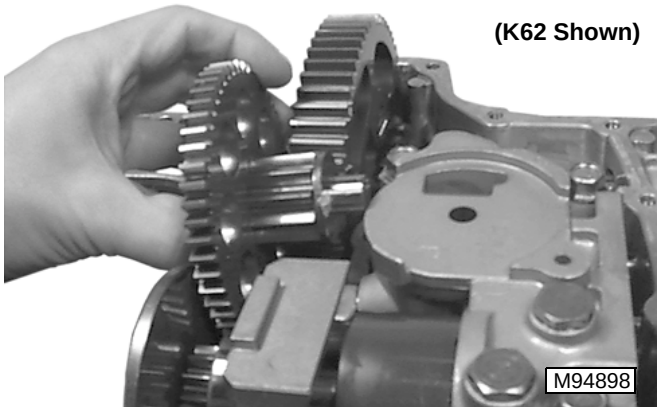


NOTE: Large filter may stay with lower case half when case halves are separated.

10. Remove oil filters from transaxle. Inspect oil filters and replace if needed.

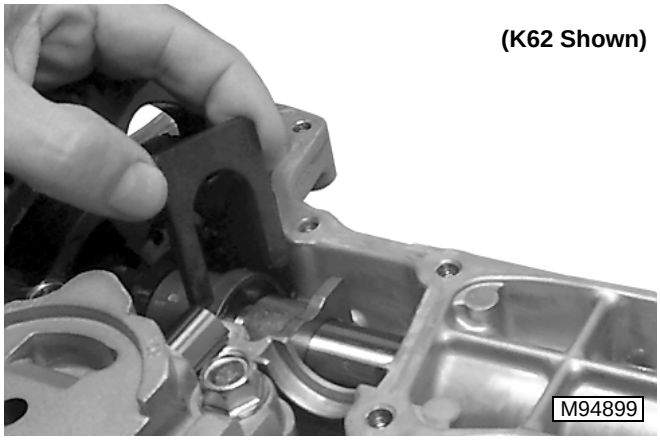


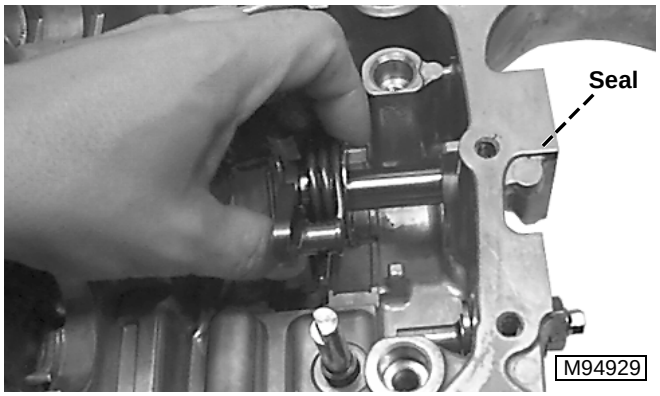
11. (K66) Remove spring from top of charge pump.



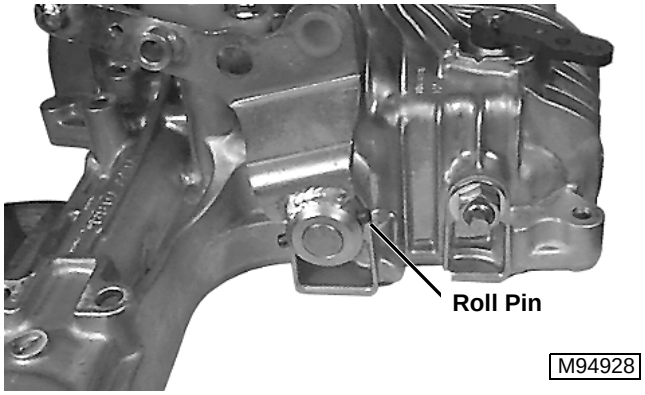
12. Remove reduction gear assembly from upper case.

NOTE: K66 reduction gear assembly contains two needle bearings. Disassemble shaft and gears, and inspect bearings for wear or damage. Be sure bearing cages are in good condition. Replace parts as needed.

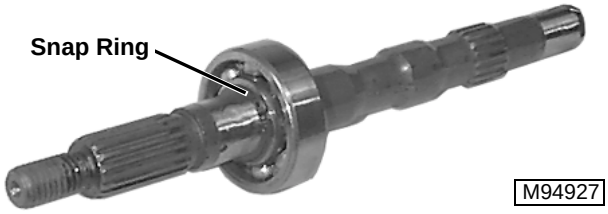




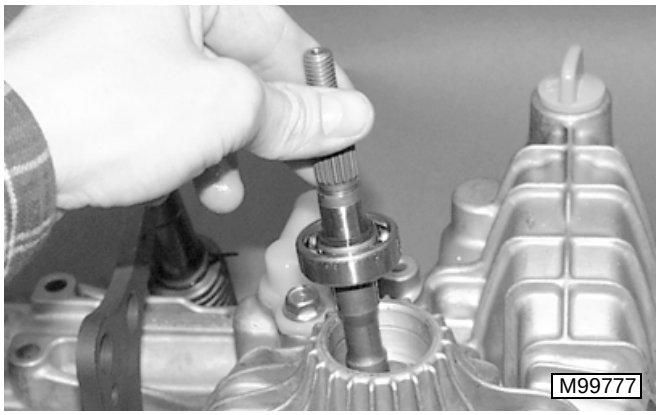
19. Install a new control arm seal in the case. Apply a light coat of grease to the inside of the seal.
20. Apply a light coat of grease to the control arm shaft hole in the upper case.
21. Install control arm assembly. Make sure the ends of the spring are on either side of the eccentric shaft.



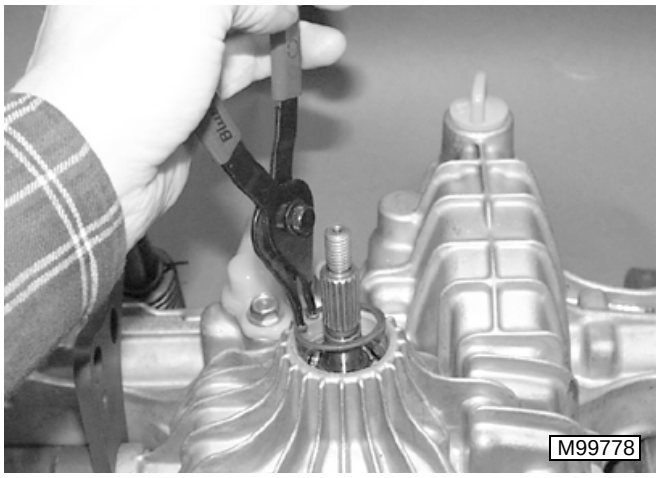
22. Install control arm on the control shaft. Install roll pin.



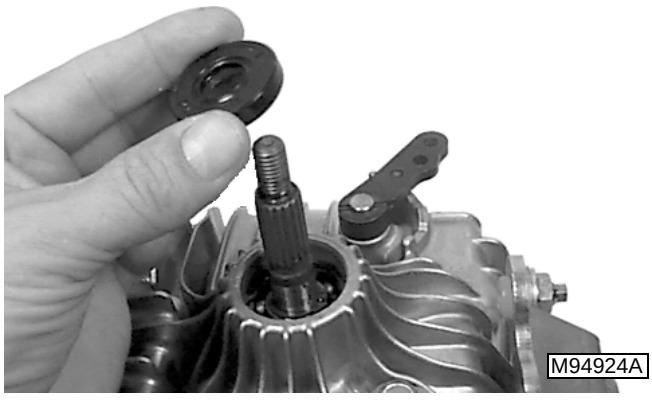
23. Install bearing and two snap rings on the pump shaft.



24. Install pump shaft and bearing assembly in case.



25. Install snap ring into case. Ensure snap ring is fully seated in groove.
26. Apply grease to the lip of a new seal. Cover the splines of the pump shaft with tape to avoid damage to the new seal.



27. Install seal on pump shaft and seat seal fully in case.

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ADJUSTMENTS

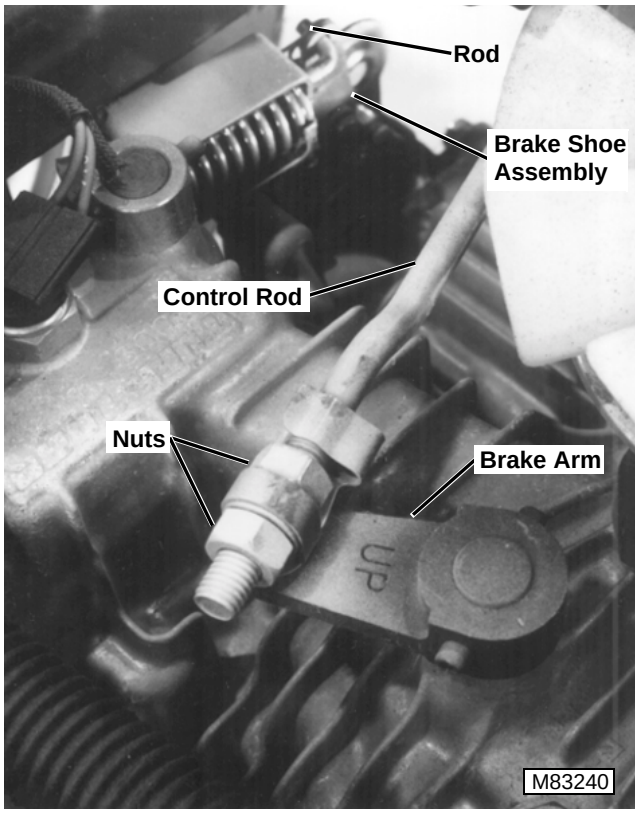
BRAKE ADJUSTMENT—HYDROSTATIC TRANSAXLE

Reason:

To ensure proper brake pedal travel and synchronize brake shoe engagement with linkage movement within the transaxle.

Procedure:

1. Park machine on level surface.
2. Turn key switch OFF.
3. Place transmission in NEUTRAL position.
4. Block wheels to prevent machine from moving.
5. Remove fender deck. (See “FENDER DECK REMOVAL AND INSTALLATION” on page 9 in "MISCELLANEOUS" Section.)



6. Disconnect control rod from brake arm.
7. Disconnect rod from brake shoe assembly.
8. Hold brake arm all the way rearward and adjust the length of the rod so that it slips easily into the hole in the brake shoe actuator.
9. Hold brake arm all the way rearward and adjust nuts so that the control rod pin slips easily into the hole in the brake arm.

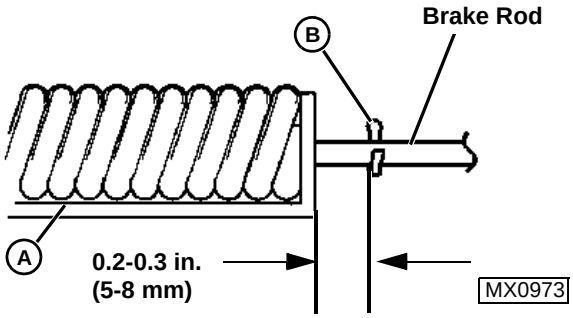
BRAKE ADJUSTMENT—GEAR TRANSAXLE

Reason:

To ensure proper brake pedal travel and brake shoe engagement.

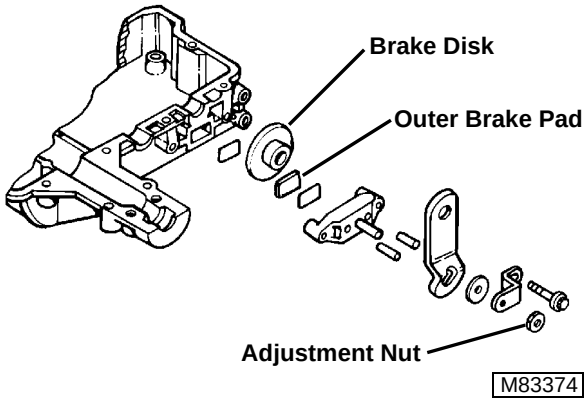
Procedure:

1. Park machine on level surface.
2. Turn key switch OFF.
3. Place transmission in NEUTRAL position.
4. Block wheels to prevent machine from moving.
5. Depress clutch and brake pedals and move park brake lever to lock position.



Shown from LH side of tractor

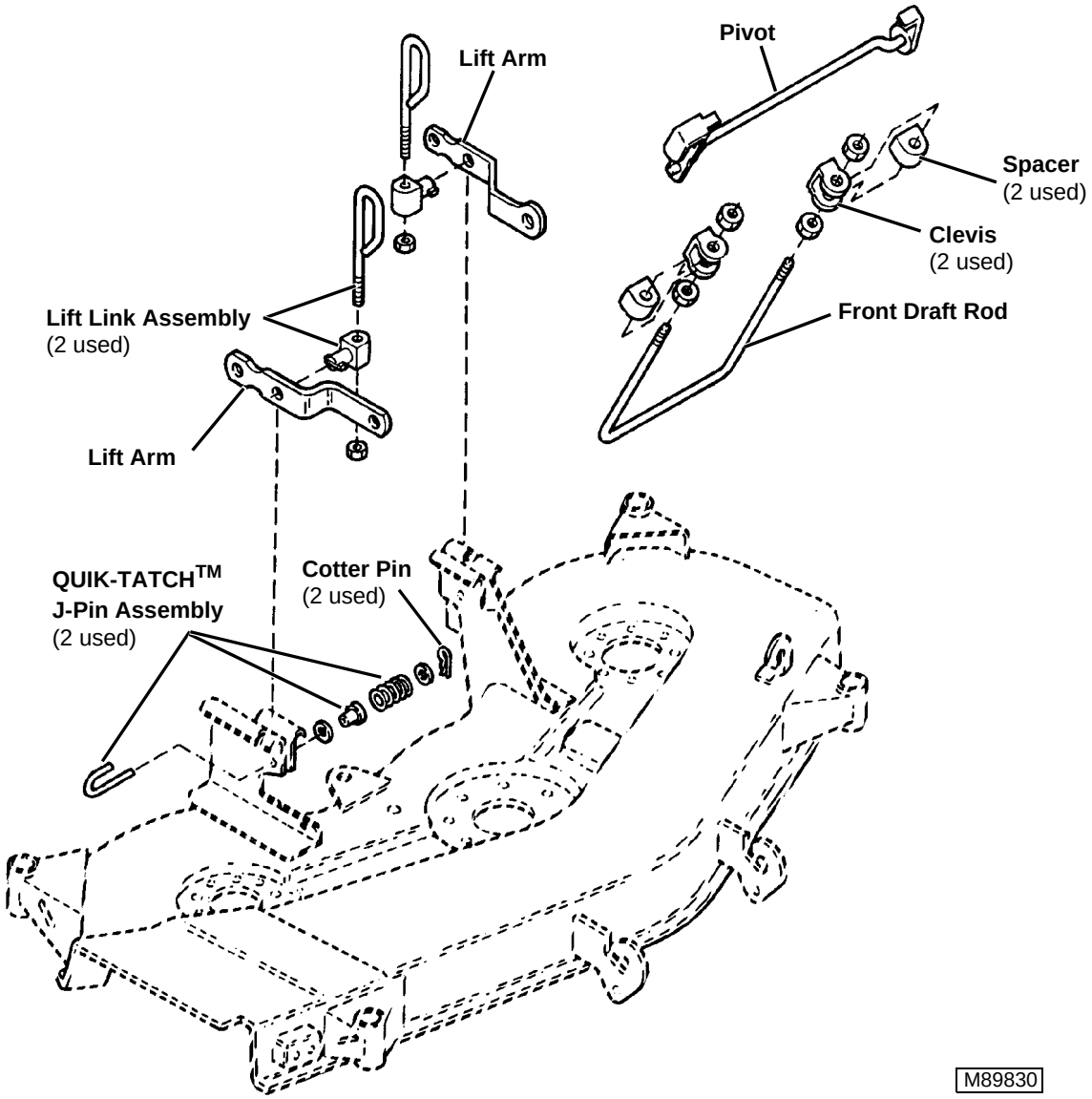
6. Measure distance between actuating spring bracket (A) and cotter pin (B).
7. If distance is **0.2-0.3 in. (5-8 mm)**, the brakes are OK. No further adjustment is required.
8. If distance is less than **0.2 in. (5 mm)**, adjust the brakes as follows:



Located behind RH rear tire

- Tighten or loosen the brake adjustment nut (C) to achieve **0.2-0.3 in. (5-8 mm)** distance.
- Depress clutch and brake pedals and move park brake lever to lock position.
- Measure gap between actuating spring bracket and cotter pin.
- Repeat until gap is **0.2-0.3 in. (5-8 mm)**.

DRAFT ARMS COMPONENT LOCATION



MOWER LEVEL FRONT-TO-REAR

Reason:

To insure that the mower deck is set to correct specifications for optimum cutting efficiency at the selected cut height.

Equipment:

- TY15272 Blade Height Gauge

Procedure:

⚠ CAUTION

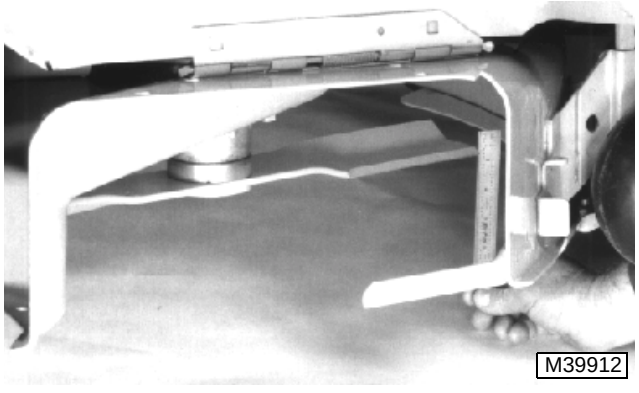
Before you adjust the mower, stop engine and remove ignition key.

1. Disengage PTO.
2. Park machine on a hard, level surface.
3. Turn key switch OFF.
4. Move forward/reverse pedals to NEUTRAL position (hydrostatic models, transaxle in neutral on gear shift models).
5. Engage park brake.
6. Check for correct tire pressures.
7. Remove gauge wheels to insure they do not contact the ground during leveling.

⚠ CAUTION

Wear gloves or wrap blade with rag to prevent personal injury

8. Rotate blade by hand to check for bent blade or spindle.
9. Set mower at the cutting height that will be used.
10. Set mower blades parallel to the center axis of machine.



11. Use TY15272 Blade Height Gauge or a small ruler to measure front blade tip to ground and measure rear blade tip to ground. The front end of the blade should measure lower than the rear.

Specifications:

Front-to-Rear Blade Height Difference

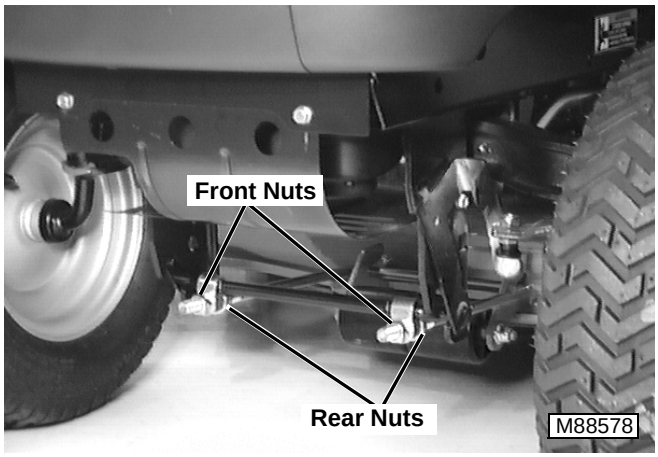
42 – 54-Inch Deck (front lower than rear)
. . . . . 6 – 9 mm (0.24 – 0.35 in.)

Results:

If the blade front-to-rear height difference is out of specification, adjust as follows.

NOTE: On decks equipped with bagger performance is generally greater when the front-to-rear adjustment is at the maximum end of specifications.

Adjustment Procedure:



- Loosen REAR nuts on front draft rod.
- Turn FRONT adjustment nuts clockwise to raise front of mower deck or counterclockwise to lower front of mower deck.
- Tighten REAR nuts after adjustment is completed.

After adjusting mower height check gage wheels to insure they are adjusted properly. (See “MOWER GAGE WHEELS ADJUST” on page 16.)

SPECIFICATIONS

OTHER MATERIALS

Number	Name	Use
TY6305	John Deere Clean and Cure Primer	Cleans parts and speeds cure of sealant
TY16135	John Deere Ultra-Blue™ RTV Silicone Form-In-Place Gasket	Seals gear case cover
T43512	John Deere Thread Lock and Sealer (Medium Strength)	Apply to threads of sheave set screws

M