FORD

LOG SPLITTERS

MODELS: **09GN-5700/5701/5700A/5701A**

REPAIR MANUAL

40570040
Reprinted

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LOG SPLITTER (Model 09GN-5700/5701/5700A/5701A)

IMPORTANT: The replacement of any part on this product by other than the manufacturers' authorized replacement part may adversely affect the performance, durability or safety of this product.

The manufacturer reserves the right to make changes on and to add improvements upon its products at any time without notice or obligation. The manufacturer also reserves the right to discontinue manufacture of any product at its discretion at any time.

INTRODUCTION AND SAFETY

LOG SPLITTER
(09GN-5700/5701/5700A/5701A)

This manual contains service and maintenance instructions for a "Off Road" and "Highway" type log splitter. It has been prepared to provide the serviceman with the information needed to correctly service and maintain a log splitter. All sections of this manual should be carefully studied by the serviceman before beginning to work on the log splitter.

ALL WARNINGS used throughout this manual should be heeded and followed very closely. Failure to obey these rules could result in personal injury or death to yourself or others.

All references made to the left side, right side, front and rear are given from the operator's position.

SAFETY

Safety is No Accident . . . . . Be Alert!

This symbol is used to attract your attention to the safety precautions that should be understood by the servicemen to avoid accidents.

When you see this symbol —  **HEED ITS WARNING!**

Please read and follow these instructions on safety procedures before servicing the log splitter.

PERSONAL CONSIDERATIONS:

1. To avoid physical strain and possible damage to the log splitter, when handling heavy parts, such as the frame and engine (total unit weight approximately 400 lbs.), work carefully and use two or more persons or suitable over-head hoist.
2. Never let shop rags, used for cleaning, lay around to become fire hazards.
3. Always use safety glasses when servicing or inspecting the log splitter.
4. Make sure control lever is in NEUTRAL before starting engine. Keep hands, feet and clothing away from power-driven parts.

EQUIPMENT CONSIDERATIONS:

1. Always discsonnect spark plug wire and ground wire in "V" Groove provided on top of engine and push stop switch against spark plug. This must be performed every time any servicing is done. This will prevent accidental starting of engine.
2. Always store gasoline or flammable solevents used for cleaning in closed containers specifically designed for that purpose.
3. Before cleaning, servicing or inspecting log splitter, make certain all moving parts have stopped and engine and exhaust assemblies have cooled down.
4. Never operate log splitter without proper guards, plates or other safety protective devices in place.
5. Never store log splitter with gasoline in the tank inside a building where fumes may reach an open flame or spark. Allow engine to cool before storing in any enclosure.
6. Never add fuel to a running or hot engine. Allow engine to cool.
7. Do not change the engine governor settings or overspeed the engine.

OPERATIONAL CONSIDERATIONS:

1. Do not start or run the engine indoors. Fumes from engine exhaust can kill.
2. Do not move log splitter when engine is running.
3. Do not operate log splitter when it is attached to towing vehicle.
4. Position log splitter on level ground and block wheels to prevent movement of log splitter when service testing.
5. When service testing place hands on side of wood when loading log splitter to prevent fingers and hands from being pinched by wedge, ram or frame. Also keep legs and clothing clear of pinch areas.
6. Keep fingers out of split in wood.
7. **DO NOT** operate log splitter without spark arrestor screen in place.
8. If the engine should start to vibrate abnormally, stop engine and check immediately for the cause. Vibration is generally a warning of trouble.
9. If test running is required, make sure you are thoroughly familiar with the complete operation of the log splitter. Know how to stop the log splitter.
10. Be sure that all parts are securely fastened before starting log splitter.
11. Be sure all tools and cleaning materials are removed before starting log splitter.

IDENTIFICATION PLATE LOCATION

The log splitter model and serial number is located on the left side of rear frame assembly below the engine and above the stroke length adjustment slot. (Fig. 1)

Refer to engine manufacturer's service literature for location of engine model and serial numbers.

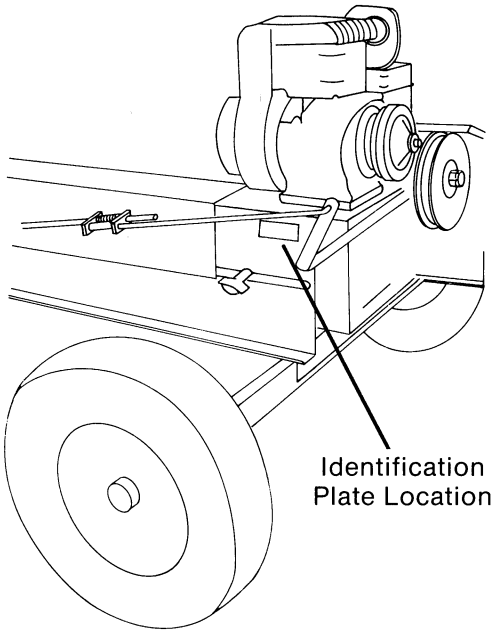

FIG. 1

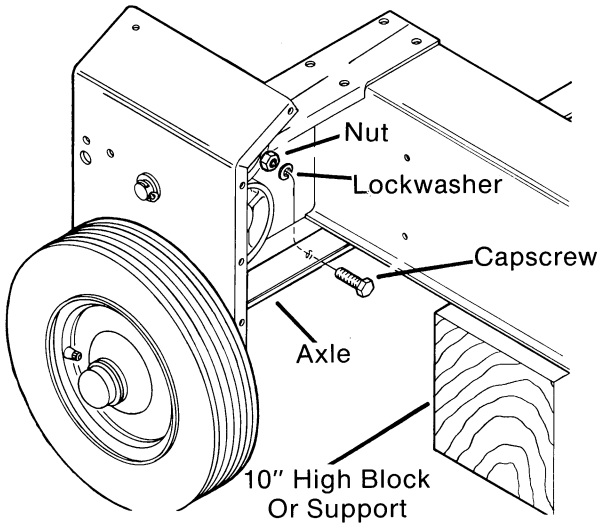

FIG. 2

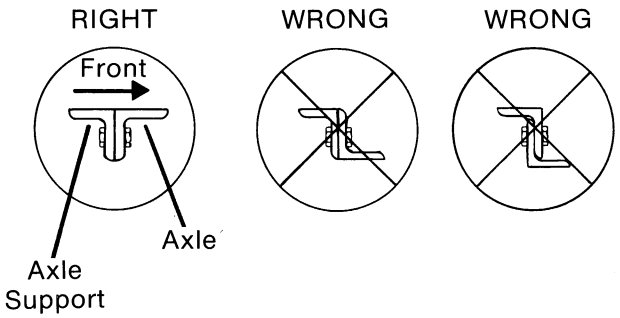

FIG. 3

SET-UP INSTRUCTIONS

AXLE MOUNTING

1. Block back end of log splitter frame with a 10" high wood block or support. Be certain block or support is wide enough and strong enough to support the weight of log splitter.

   IMPORTANT — (Highway model only)

   Make sure wires under log splitter will not be crushed by block.

2. Attach axle assembly to the **front** side of axle support at bottom rear of log splitter, as shown in (Fig.'s 2 and 3). Secure with three capscrews, lockwashers, and locknuts using 16-24 ft. lbs. torque.

ENGINE MOUNTING:

1. Place engine on top of log splitter in position shown in (Fig. 4). NOTE: Front left corner of engine base mounts on factroy assembled "weld bolt".

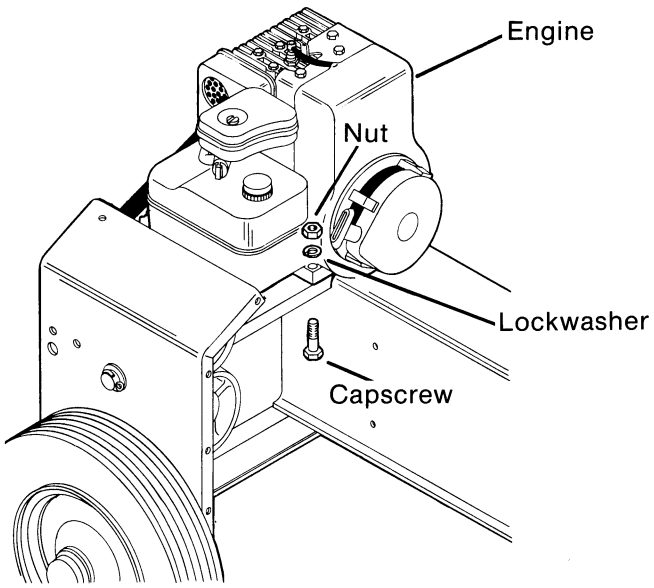

FIG. 4

2. Install drive belt around upper and lower torque converters. Secure engine with capscrews, lockwashers and hex nuts and torque nuts to 18-22 ft. lbs. (Fig. 5)

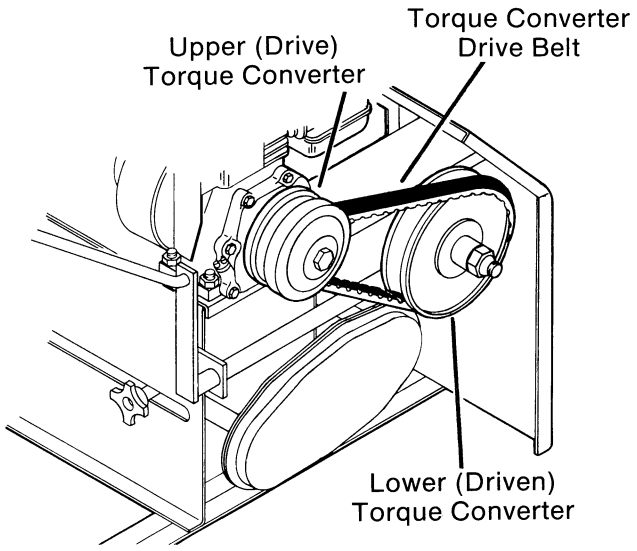

FIG. 5

FRONT AND REAR BELT GUARD MOUNTING

1. Before mounting guards, insert rubber grommets into the mounting holes on both belt guards.
2. Mount belt guards as shown in (Fig. 6 and 7). Fasten guards with capscrews and flat washers. HINT: Do not tighten capscrews until all screws are in place.

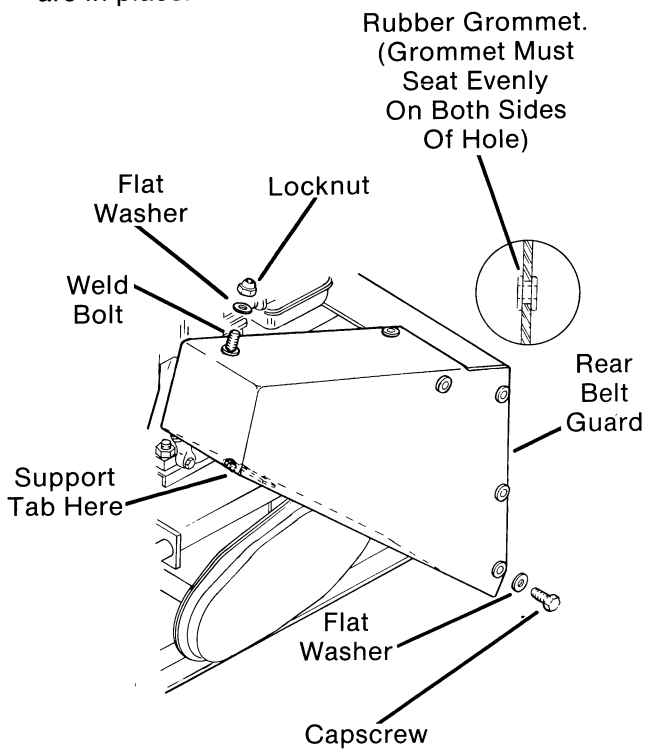

FIG. 6

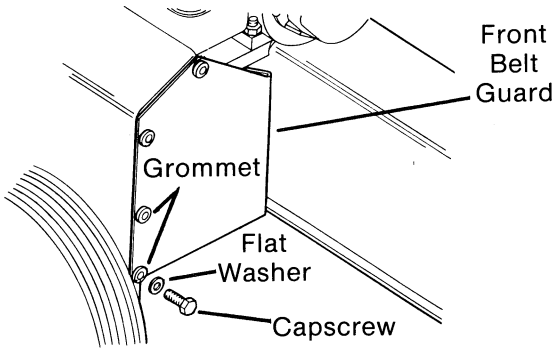

FIG. 7

LUBRICATION AND MAINTENANCE

WARNING: Never attempt to lubricate log splitter while it is in operation or while engine is running. Always turn engine off, disconnect spark plug wire and ground to engine and push stop switch against spark plug.

IMPORTANT — Clean grease fitting off before attaching grease gun. Grease only until grease comes out of bearings and wipe off any excess.

LUBRICATION: (Reference Fig's 8 and 9 for lube point locations.)

LUBE INTERVAL	LUBE POINT	
	1.	Engine — Refer to Engine Manufacturer's Manual for all lubrication and fuel requirements.
4 hours or daily	2.	Upper "Drive" Torque Converter (Engine) Align holes in torque converter cover with hole in rear belt guard. Add 2-3 squirts of 30 wt. oil.
5 hours	3.	Thrust Bearing. Extend ram completely, stop engine. Add 10 pumps No. 2 wheel bearing grease or Ford 1T-M1C137-A grease. Start engine reverse ram and extend ram a second time. Stop engine and regrease with 10 pumps of grease.
5 hours	4.	Front Output Shaft Bearing. Original models — Equipped with a radial bearing and grease fitting. Grease with No. 2 wheel bearing grease or Ford 1T-M1C137-A grease. Current models — Equipped with a sealed ball bearing — No grease is required.
10 hours (at least twice per season)	5.	Lower "Driven" Torque Converter (Jackshaft). Coat all cam surfaces and insert buttons using Molybdenum Disulfied grease. To gain access to lubricate buttons, rotate inside half of "driven" pulley clockwise about 60°. Oil shaft surface and moveable sheave bushing using 2-3 drops SAE #30 wt. oil. IMPORTANT: DO NOT DROP OIL ON BELT OR "V" PULLEY SURFACES. WIPE UP ALL SPILLS COMPLETELY.
25 hours (or 1 per year)	6.	Nut Retainer. Operate splitter with a forward stroke and stop engine and wait for all movement to stop. Remove cover and fill cavity between nut assembly and nut retainer with No. 2 wheel bearing grease or Ford 1T-M1C137-A grease.
25 hours	7.	Chain Case. Check lube level inside chain case. Add special lead base (EP) SAE 140 wt. heavy duty oil (G.B. 4890), as required if level isn't up to bottom of level plug hole.

LUBE INTERVAL	LUBE POINT	
25 hours	8.	General Lubrication. Apply 1 or 2 drops of 30 wt. oil to all other pivot and linkage points to insure free movement.
	9.	Wheel Bearings.
50 hours		A. Off Road Models — Wheels are designed and recommended for low speed only (below 10 mph.). Lubricate bushings on wheels with SAE 20 wt. oil.
1 per year		B. Highway Models — Wheel bearings should be repacked with No. 2 wheel bearing grease or Ford 1T-M1C137-A grease.
As Required	10.	Adjustment Rod. Periodically lubricate rod through adjustment slot on side using 30 wt. oil.
As Required	11.	Output Shaft Splines. Apply No. 2 wheel bearing grease or Ford 1T-M1C137-A grease to the splines of output shaft to assure free movement of sprocket on shaft.

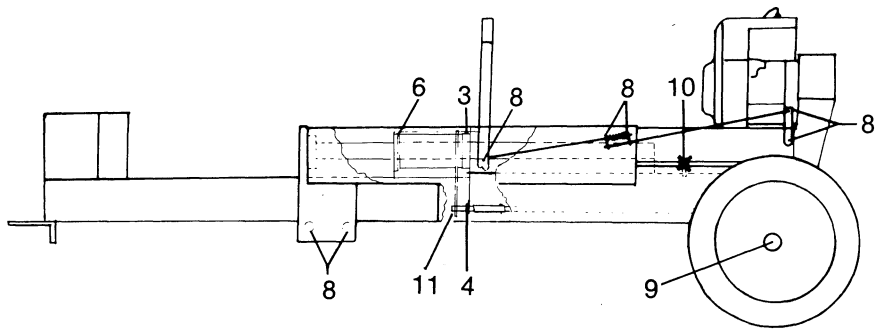

FIG. 8

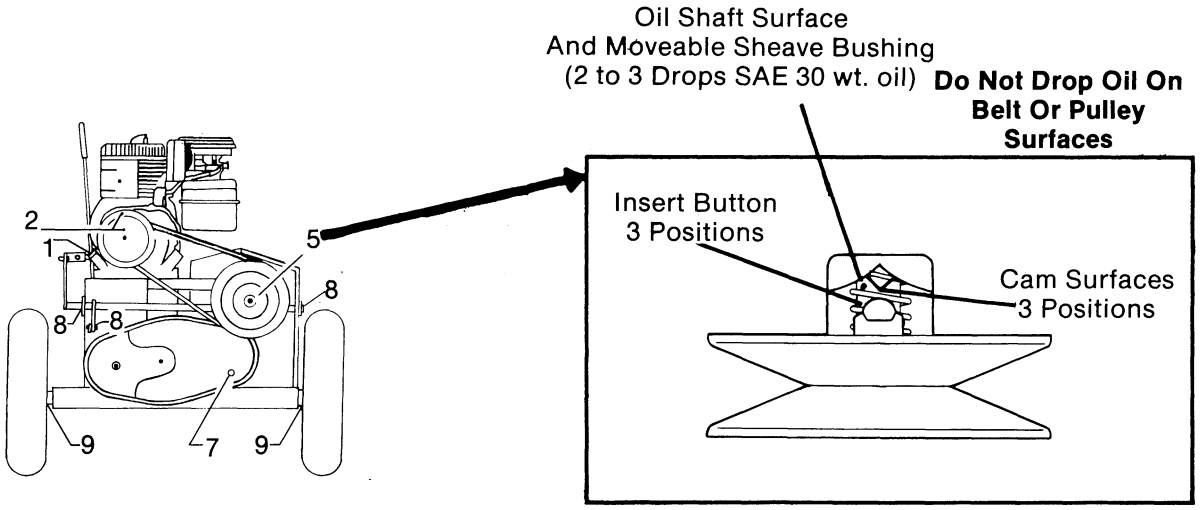

FIG. 9

MAINTENANCE:

1. Clean log splitter after each use.

   NOTE: If a pressure washer is used to clean unit, lubricate as recommended in lubrication section directly after finishing.

2. Before each use, check for loose hardware, etc., tighten as required.

3. Correct tire pressure for all tires is 20 PSI.

4. Clean inner pulley surfaces (belt surfaces) approximately every 15 hours.

5. Spark Arrestor Screen should be cleaned and checked every 50 hours. If screen is damaged by holes, burns, etc., replace screen.

   WARNING: To avoid accidental fires, DO NOT operate unit without spark arrestor screen in place.

6. Engine — Follow information listed in engine manufacturer's manual for maintenance suggestions and recommendations.

ADJUSTMENT AND SERVICING

ENGINE:

1. See Engine Manufacturer's Owner's Manual for adjustments and servicing information.

2. Maximum engine RPM high speed operating setting range is 3800 RPM to 4200 RPM.

3. Engine Removal and Replacment —

   WARNING: To avoid accidental starting, disconnect spark plug wire and ground to engine.

   A. Drain gas and oil from engine.

   B. Remove rear belt guard and slip torque converter drive belt off pulleys and remove. (Fig. 11)

   C. Remove hardware securing engine to main frame and remove engine. (Fig. 10)

   D. To replace engine, reverse above procedure (engine mounting capscrews should be installed from bottom up, torque capscrews 18-22 ft./lbs). (Fig. 10)

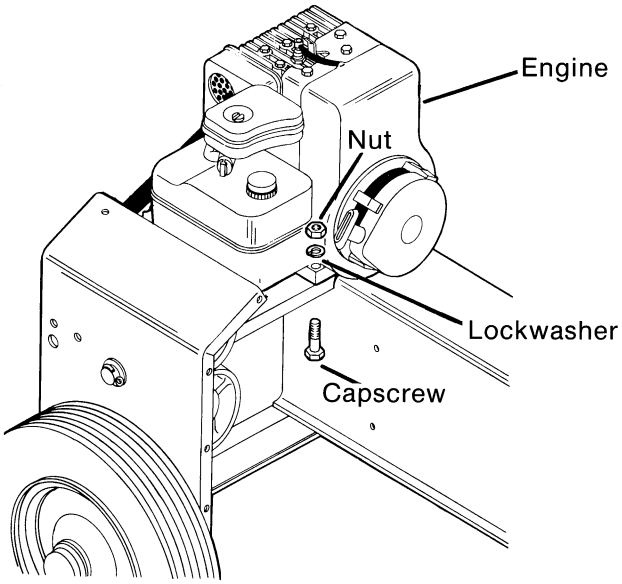

FIG. 10

BELTS:

1. **Torque Converter Drive Belt Replacement —**

   WARNING: To avoid accidental starting, disconnect spark plug wire and ground to engine.

   A. Remove rear belt guard.

   B. Rotate inside half of "driven" torque converter pulley clockwise and separate pulley halves. Work belt off bottom of outer "driven" pulley half and then remove from engine "drive" torque converter. (Fig. 11)

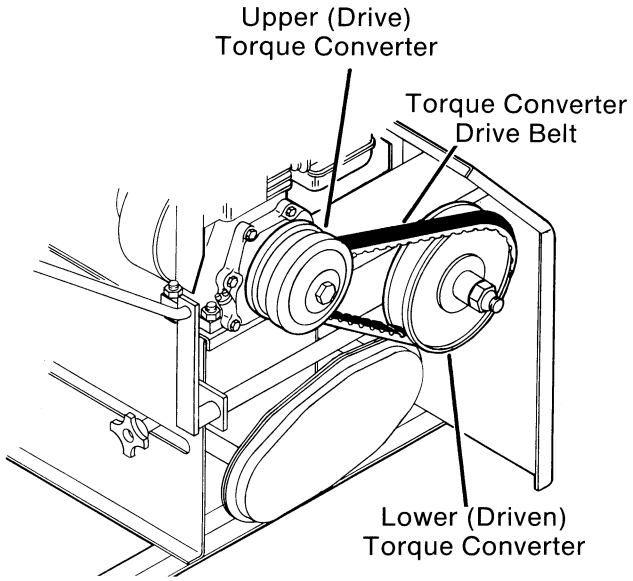

FIG. 11

C. Clean all pulley surfaces of dirt or any residue.

D. Install new belt in reverse order. IMPORTANT — Only replace belt with the new belt recommened by manufacturer. DO NOT use substitute belts.

E. Replace rear belt guard.

2. Input Pulley Drive Belt Replacement —

WARNING: To avoid accidental starting, disconnect spark plug wire and ground to engine.

A. Remove front belt guard.

B. Remove friction wheel by holding nut on end of jackshaft and remove the three nut and bolt assemblies holding it to hub assembly. (Fig. 12)

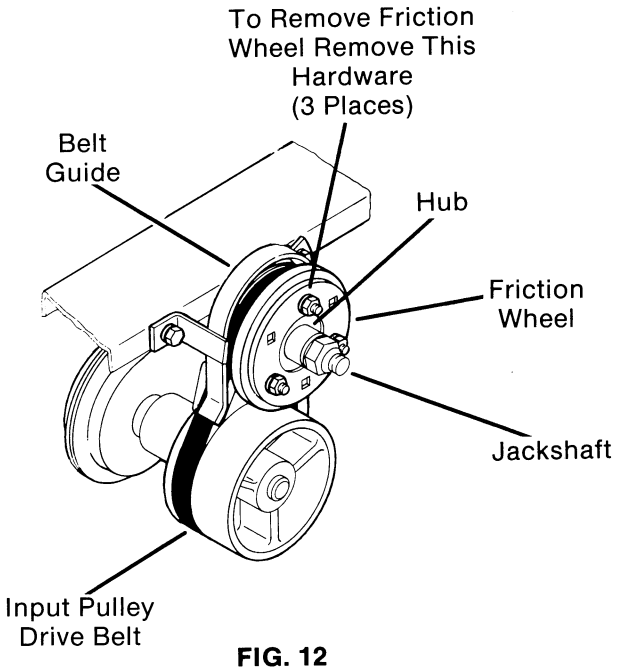

FIG. 12

C. Remove belt guide by removing two capscrews securing it. (Fig. 12)

D. Set control lever in REVERSE position and remove old belt from pulleys.

E. Inspect pulley surfaces for nicks, chips, etc., check pulley alignment.

F. To install new belt, reverse above procedure. IMPORTANT — Only replace belt with the new belt recommended by manufacturer. DO NOT use substitute belts.

IMPORTANT — Powder new belt! (talcum or soap stone powder) After new belt is installed cycle the ram forward and backwards a few times, under no load, to set new belt.

TORQUE CONVERTERS ("DRIVE" AND "DRIVEN") :

1. "Drive" Torque Converter Removal and Servicing —

WARNING: To avoid accidental starting, disconnect spark plug wire and ground to engine.

A. Remove rear belt guard and drive belt.

B. Remove bolt holding torque converter to engine crankshaft.

C. Insert screwdriver between engine housing and rear of torque converter and carefully twist screwdriver prying torque converter assembly off crankshaft. (Fig. 13)

IMPORTANT: When prying with screwdriver be careful not to puncture engine crankshaft oil seal.

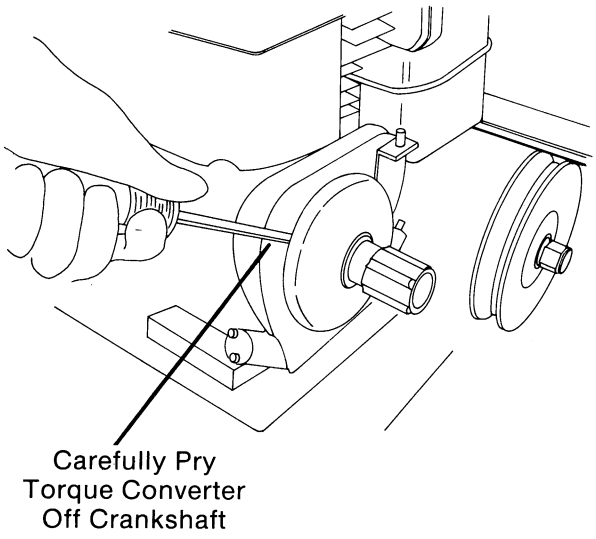

FIG. 13

D. Disassemble and check condition of all internal parts (Fig. 14) (springs, shoe assembly wear pads, bronze bushing and pulley halves) and replace any worn or broken pieces.

E. NOTE: If drum driver or movable sheave are replaced, lubricate inner surfaces of driven drum and movable sheave with "Never Seize" lubricant.

Reassemble torque converter by following parts sequence shown in (Fig. 14) and mount assembly back onto crankshaft. Replace drive belt and belt guard.

2. "Driven" Torque Converter Removal and Servicing —

WARNING: To avoid accidental starting, disconnect spark plug wire and ground to engine.

A. Remove front and rear belt guards.

B. Remove drive belt from torque converters.

C. Remove friction wheel by removing three carriage bolts and nuts retaining wheel to hub assembly. (Fig. 12)

D. Remove belt guide by removing the two capscrews. (Fig. 12)

E. Remove input pulley drive belt from pulleys.

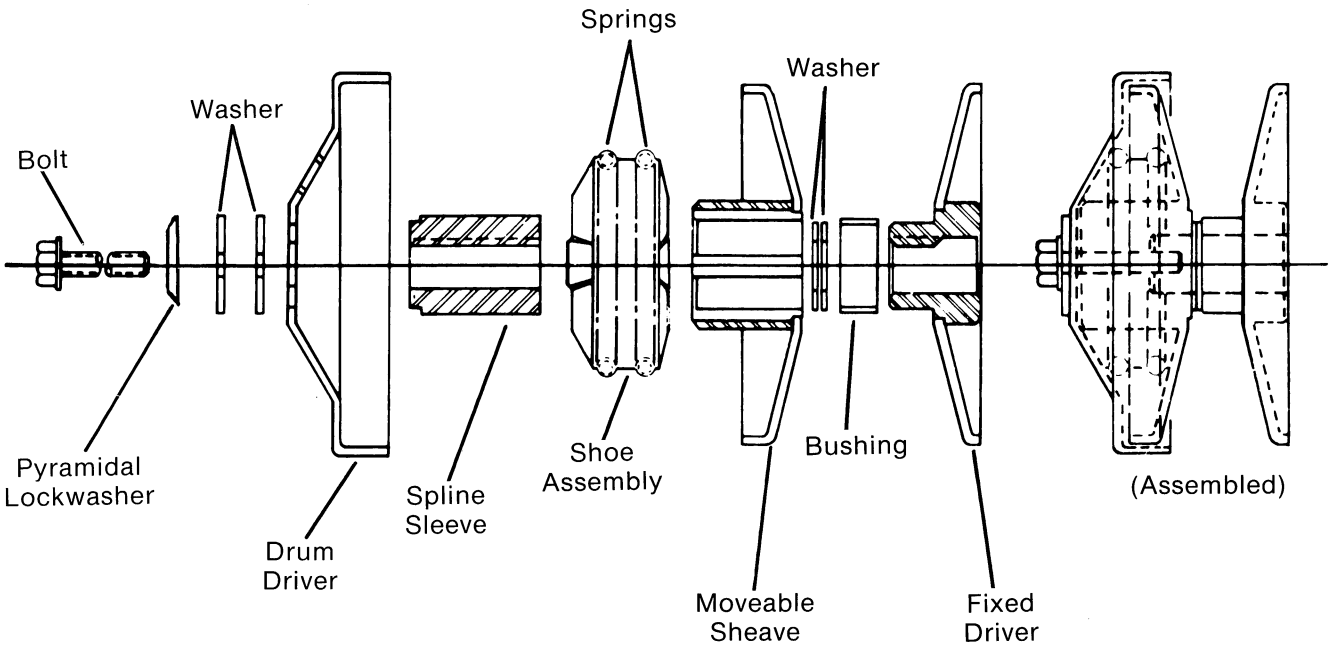

FIG. 14

F. Holding a wrench on each locknut on ends of jackshaft, loosen locknut on "driven" torque converter side. (Fig. 15)

IMPORTANT — When retightening locknuts back onto jackshaft be sure there are approximately the same number of threads exposed on both sides. Torque locknuts to 70-90 ft./lbs.

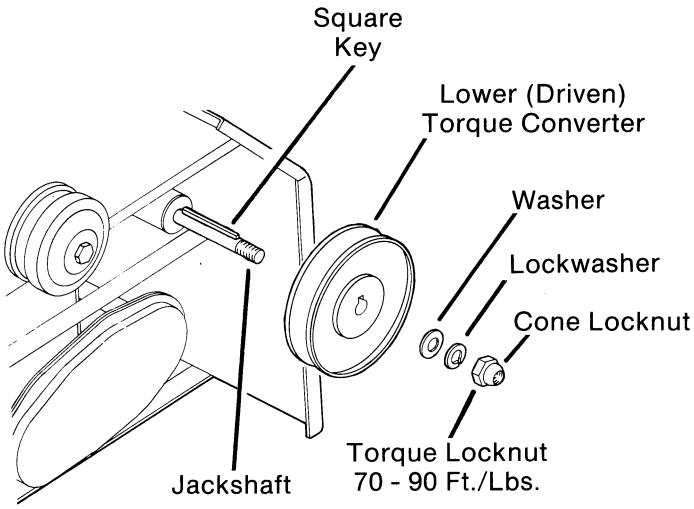

FIG. 15

G. Using a block of wood and hammer, drive jackshaft in far enough so that "driven" torque converter can be removed. (Fig. 15)

H. ⚠ **WARNING: To avoid injury from parts under spring tension, caution should be taken when disassembling torque converter.**

IMPORTANT — Note the position of main spring end in the cam housing. Spring end should be in position No. 1. (Fig. 16)

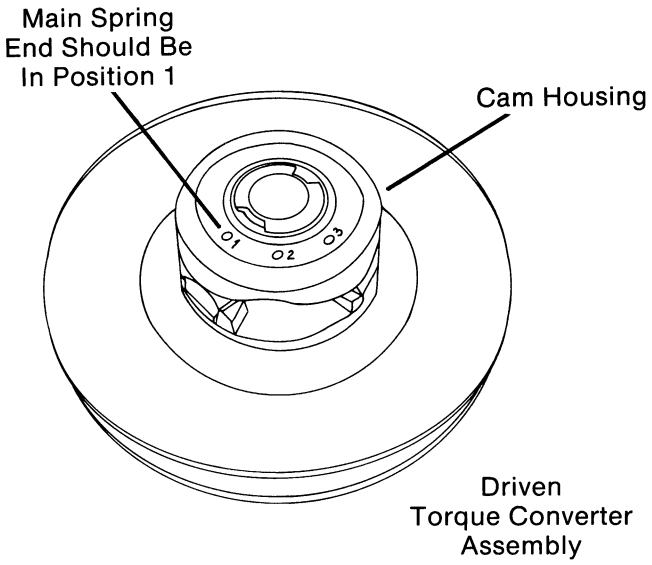

FIG. 16

Remove retaining ring holding assembly together. All parts of torque converter can now be disassembled.

I. Check condition of all parts in torque converter for wear or breakage. Replace any worn or broken pieces.

J. Reassemble torque converter by following parts sequence shown in (Fig. 17).

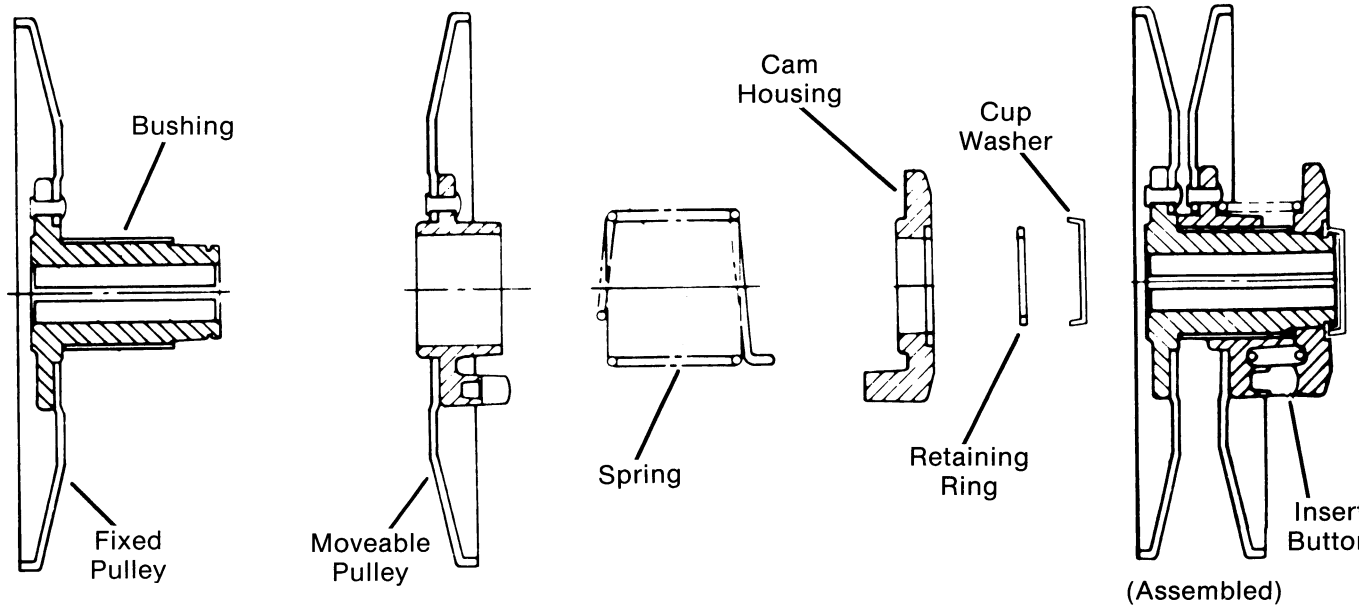

FIG. 17

IMPORTANT — End of main spring should be mounted in hole position No. 1 in cam housing. (Fig. 16) With fixed pulley half, down on bench, compress main spring so that key dogs on cam housing slide into keyways on fixed pulley hub. (Fig. 18) Rotate inner moveable pulley half, clockwise until insert buttons pass the first cam peak and compress spring completely. Attach and secure assembly with retaining ring.

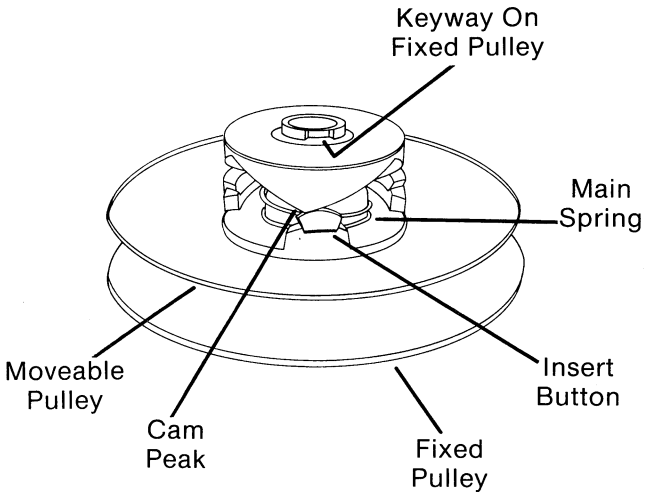

FIG. 18

K. Lubricate all cam surfaces, insert buttons and secondary bushing using Molybdenum Disulfied grease.

L. Reverse above procedure to reassemble torque converter onto jackshaft.

3. Insert Button Rotation or Replacement —

NOTE: Insert buttons should be rotated every two years and replaced every four years (under normal use).

WARNING: To avoid accidental starting, disconnect spark plug wire and ground to engine.

A. Remove rear belt guard and drive belt.

B. Rotate inside half of "driven" pulley clockwise about 60° against spring tension and hold pulley in this position. Buttons are now positioned between cam surfaces for servicing. (Fig. 19)

C. Pull out each button one at a time and rotate button 180° or replace badly worn buttons.

D. Lubricate all cam surfaces and insert buttons with Molydbenum Disulfied grease. Oil shaft surface and moveable sheave bushing using 2-3 drops SAE #30 wt. oil. IMPORTANT: DO NOT DROP OIL ON BELT OR "V" PULLEY SURFACES. WIPE UP ALL SPILLS COMPLETELY. (Fig. 19) Replace drive belt and rear belt guard.

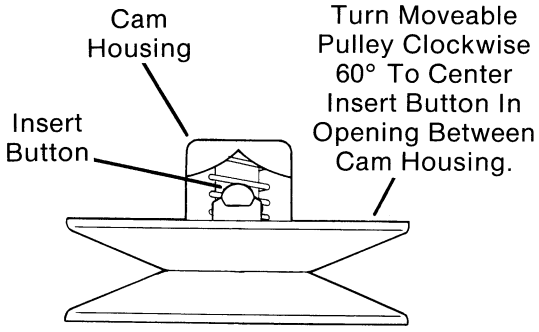

FIG. 19

FRICTION WHEEL:

1. Friction Wheel Replacement —

WARNING: To avoid accidental starting, disconnect spark plug wire and ground to engine.

A. Remove front belt guard.

B. Remove friction wheel by removing three nut and bolt assemblies securing it to drive hub. (Fig. 20)

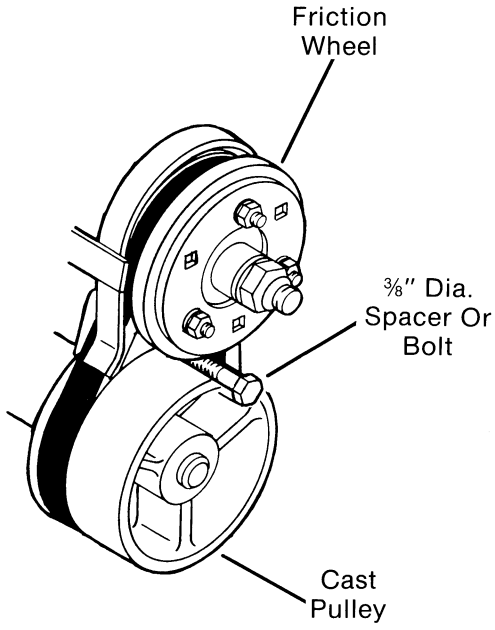

FIG. 20

C. Mount new friction wheel. Friction wheel should be correctly seated onto the three tabs on hub assembly and offset of friction wheel should be positioned toward rear of splitter.

D. Install carriage bolts through rear of hub assembly through friction wheel and tighten securely with nuts.

E. Set control lever in "NEUTRAL" and check distance between friction wheel and cast pulley. This **must** be ¼"! If correct, go on to step "I". If dimension is anything else, follow steps "F" through "I".

F. Install a spacer between friction wheel and cast pulley. Use approximately a ⅜" dia. spacer or bolt to achieve ¼" gap. (Fig. 20)

G. Loosen setscrew in stop collar on front control rod and move control lever into the "NEUTRAL" position. (Fig. 21) **Hold** control lever in "NEUTRAL" and retighten setscrew.

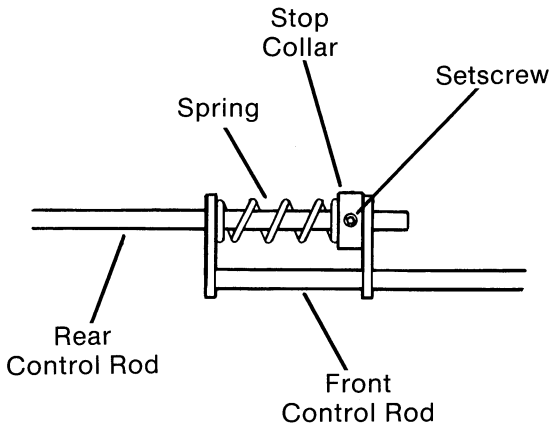

FIG. 21

H. Remove spacer and recheck ¼" gap. Repeat procedure above if dimension is not obtained.

I. Replace front belt guard.

JACKSHAFT:

1. Jackshaft Removal and Replacement —

WARNING: To avoid accidental starting, disconnect spark plug wire and ground to engine.

A. Remove front and rear belt guards.

B. Remove friction wheel by removing three carriage bolts and nuts retaining wheel to hub assembly. (Fig. 22)

C. Remove belt guide by removing two capscrews. (Fig. 22)

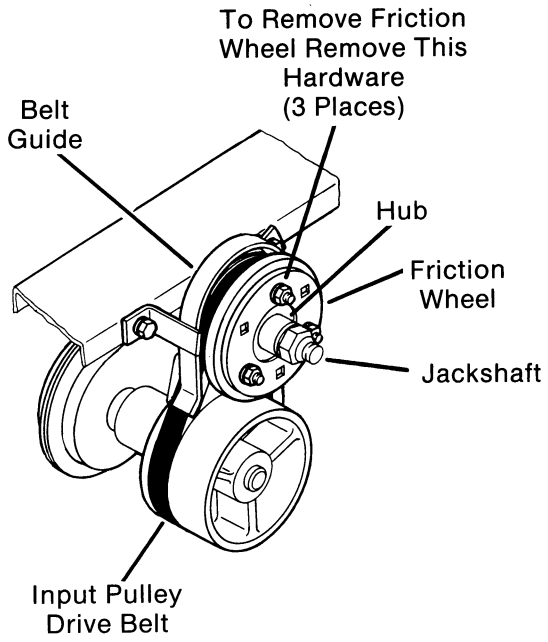

FIG. 22

D. Remove input pulley and torque converter drive belts.

E. Holding a wrench on each locknut on ends of jackshaft, loosen locknut on "driven" torque converter side. (Fig. 15)

F. Using a block of wood and a hammer, drive jackshaft in so that "driven" torque converter, drive key and washers can be removed. (Fig. 15)

G. Drive jackshaft through bearings. Hub assembly, drive pulley and locknut can now be removed from jackshaft.

H. If bearings need replacement drive bearings from inside out with a tapered drift. (Fig. 23)

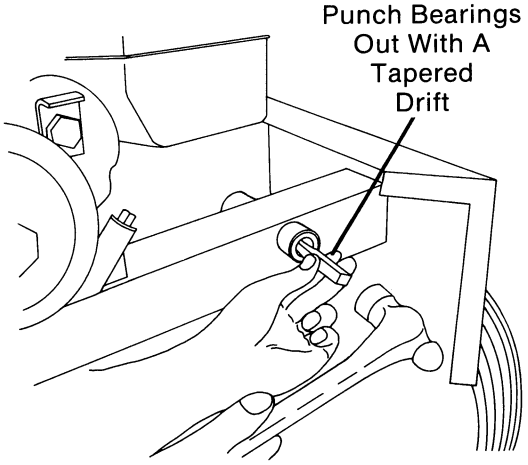

FIG. 23

I. Install new bearings part way into housing by tapping on outer race. Be sure inner bearing spacer is installed before bearings.

J. Install jackshaft through bearings and bearing spacer. Tap bearings all the way into housing until both bearings are seated flush.

K. Install bushing, washer, cup washer, drive key and "driven" torque converter assembly onto rear of jackshaft. (Fig. 24)

L. Install bearing spacer, drive key, drive pulley, hub assembly and friction wheel onto front of jackshaft. (Fig. 24)

M. Install washers and locknuts onto both ends of jackshaft. (Fig. 24)

IMPORTANT — When locknuts are tightened be sure there are approximately equal number of threads exposed on both sides of jackshaft. Torque locknuts to 70-90 ft./lbs.

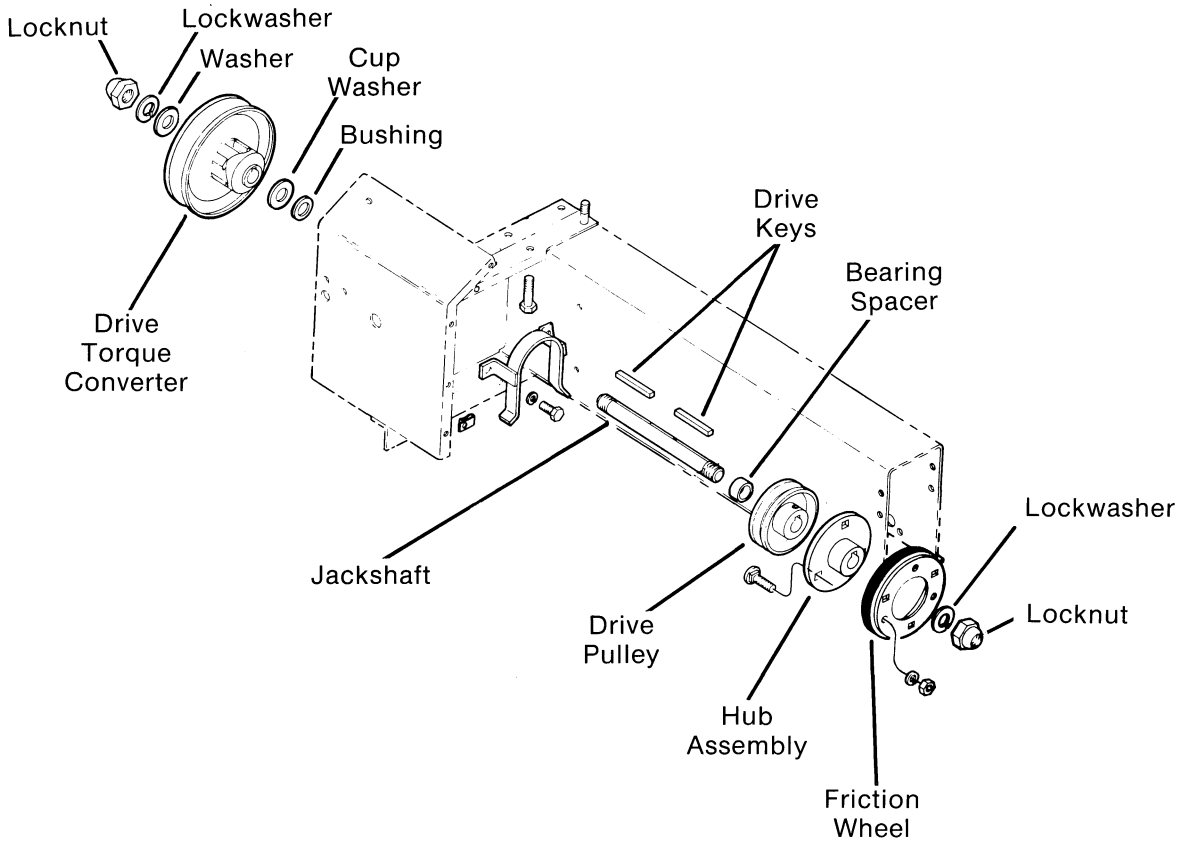

FIG. 24