OWNERS MANUAL

Operating Instructions and Parts List



JIGER WARRANTY

Each JIGER vehicle is warranted for a period of 4 months from date of purchase by its original purchaser. This warranty includes parts and labour providing that:

- The vehicle has not been subject to accident, or misuse and that no repairs or alterations have been made by other than authorized JIGER Dealers. Subject to factory permission.
- 2) The defective parts have been returned to the factory for examination to their satisfaction.
- 3) The Warranty will not apply if the vehicle has been used by the dealer or any other person prior to the original retail sale or where a vehicle is resold within the Warranty period.
- 4) Warranty will not be accepted if the purchaser fails to send in the Warranty Registration Card within 14 days after purchase.

Loss, damage, fire and theft of the vehicle or of parts are not covered by this Warranty.

All transportation charges on, and damages and loss incurred in connection with the transportation of parts submitted for replacement or repair under this Warranty shall be borne by the purchaser.

INTRODUCTION

The JIGER provides a new concept of mobility by reason of its light weight and advanced design. Its ability to operate over a combination of rough terrain and water conditions is unmatched in any vehicle of its class.

Because JIGER will be used in extremes of driving not expected of almost any other vehicle, it is important that the servicing suggested in this manual be closely followed.

Read Section 2, <u>DRIVING INSTRUCTIONS</u>, carefully before attempting to drive your JIGER.

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- Henry warmen

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SECTION 1 SPECIFICATIONS FOR JIGER

LENGTH - 75 inches, WIDTH - 51 inches, HEIGHT - 36 inches
WHEELBASE - 44 inches
GROUND CLEARANCE - 8½ inches
FREEBOARD - 15 inches
WEIGHT - EMPTY - 230 lbs., GROSS - 600 lbs.
FUEL CAPACITY - 5 gallons.

ENGINE JLO L152

AIR COOLED, 2 CYCLE, 1 CYLINDER

BORE - 59 MM (2.322 in.)

STROKE - 54 MM (2.126 in.)

CAPACITY - 148 cc (9 cu. in.)

MAX. POWER - 8.2 H.P. at 6000 RPM

MAX. TORQUE - 8.82 ft. 1bs. at 4500 RPM.

TRANSMISSION - Automatic, Variable V-Belt, Stick Controlled Six Wheel Drive

BRAKES - Disk Type, Self Energizing

CLUTCH - Automatic Centrifugal, Ball Bearing & Multiple Disc

For Steering

TIRES - JIGER NO-PLY, Tubeless, Bonded to Wheel, 11 x 20

MAX. SPEED ON LAND - 17 MPH Single Range, 25 MPH Dual Range

MAX. SPEED IN WATER - 2 MPH without aqua-pack, 5 MPH with aqua-pack

SIDE TIPPING ANGLE - 45° (100%)
MAX. GRADE - 45° (100%)
TURNING RADIUS - 60 inches

SECTION 2 DRIVING INSTRUCTIONS

A. FUEL

Use regular grade auto gas, premium grade outboard motor oil or premium grade non-detergent SAE 30 - 40.

	Ratio by Volume	
	GAS	OIL
For break-in, first full tank - new vehicle, or new or rebuilt	20	1
engine. Regular Operation	20	1

B. STARTING

- Control stick must be in LOW (rear) position when starting.
 If the stick is in forward position, stand behind the JIGER, pull the stick back, and hold while rocking the JIGER back and forth (approx. 1 to 2 feet). This will set the belts and pulleys to LOW.
- 2. Make sure that the fuel valve on the under side of the gas tank is open. (turn counter clock-wise).
- 3. STARTING PROCEDURE FOR COLD ENGINES
 - (a) Turn choke lever to ON position (Fig. 1)
 - (b) Pull starter cord briskly (Max 3 times)

NOTE:

If engine starts and stops with choke in ON position on first or second pull, immediately continue procedure c and d.

- (c) Turn choke lever to RUN position (Fig. 1)
- (d) Pull starter cord briskly (Max 3 times)
 If engine does not start, repeat procedure starting from (a) above.

(JIGER is to be driven with choke in RUN position)

- 4. Starting procedure when engine is warm from previous running:
 - (a) Try starting with choke in RUN position.
 - (b) If engine does not start after three brisk pulls on the starter cord, follow procedure for cold engine as outlined in paragraph 3 above.
- 5. WARNING: Starter cords are approximately 3 3/4 feet long. Do not pull the cord to its full length or starter may be damaged.

C. DRIVING ON LAND

ALL DRIVING CONTROLS ARE LOCATED ON THE CONTROL COLUMN, AS SHOWN IN FIG. 1.

- With the engine idling, the JIGER will remain stationary, as the automatic clutch is not engaged at this engine rpm.
- Rotate the throttle handle grips forward to increase the engine speed. The automatic clutch will engage and move the JIGER forward.
- 3. To turn left or right, turn the control stick in the desired direction as shown on Fig. 1.
 - (a) For gentle turns, only a partial rotation of the control stick is necessary.
 - (b) For sharp turns, the control stick should be rotated in the desired direction until a stop is felt. This activates selfenergizing brakes, which assist in sharp turns.

NOTE: In sharp turns, hold the control stick at the stop position; do not use excessive force, as this will not assist the turning in any way, and will cause damage.

4. Pushing the control stick forward will increase the speed, while decreasing the power. The position in which the control stick is held depends on the terrain in which you are driving. Driving experience is the best guide in this regard.

- Use the LOW range (rear) position of the control stick for climbing or descending steep grades, or sharp turns.
- To STOP, return the control stick to LOW range, return the throttle, and pull back the hand braking levers for quick stops.
- 7. To stop engine, depress stop switch on control column & hold until engine is stopped.

D. DRIVING IN WATER WITHOUT AQUA-PACK

- 1. Enter or exit from water with the control stick in LOW position.
- Turning procedure is carried out exactly as for land travel.
- 3. Do not drive in rivers with very fast currents. Avoid wide expanses of water, especially when winds are high.
- 4. A supplementary driving instruction is supplied in JIGERS equipped with aqua-pack.

E. GENERAL

- 1. It is recommended that a dry type chemical fire extinguisher be carried in your JIGER.
- 2. Whenever possible, store or park your JIGER in shelter to prevent rain or snow from filling the vehicle. A special JIGER cover is available as an accessory.

 All water should be emptied from JIGER before driving. Use a sponge or bailing can. If a large amount of water has accumulated, tilt the JIGER over backwards to drain. Do this rapidly to avoid spillage of gas through the gas cap breather hole.
- Keep heavy or rough objects in the front storage area from damaging or piercing the gas tank or lines.
 GAS LEAKS MUST BE REPAIRED AT ONCE.
- 4. In extremely difficult terrain (steep slopes, ditches, etc.) you can assist by walking beside the JIGER while controlling its operation.

- 5. Do not leave JIGER unattended with engine running. It may be possible that the engine would speed up and engage the clutch, putting the vehicle in motion.
- 6. WARNING: Do not leave loose rags or paper on the seat or inside the JIGER. These items could be pulled into the engine cooling fan, or into the chains and sprockets.

F. TIRE INFLATION

- Recommended tire pressure is 1½ P.S.I. This pressure can be reached by using the blowup tube provided in the tool kit and blowing by mouth, or using the air pump provided in the tool kit.
 - 1½ 1b. pressure is equivalent of a tire diameter of 20 1/8 inches over the plain surface. Also correct air pressure in tire can be checked with uni-tool as shown in sketch #7.
- 2. The tires may be inflated to a higher pressure (approx.) 2½ P.S.I.) which still leaves clearance between tires when evenly inflated. This increased pressure often gives better mobility in wet swamps or swimming conditions.

SECTION 2A

CARE & ADJUSTMENT OF BRAKES AND CLUTCH

BRAKES:

The surface of new brake linings is uneven and fuzzy; this unevenness tends to wear off in a comparatively short time, decreasing the thickness of lining and thus affecting braking action.

It is therefore strongly recommended to adjust the brakes after one hour of driving.

The clearance between brake and lining should be kept from almost touching to a maximum of 1/32" all-around.

For correct setting, turn nut at end of primary shaft, clock - or counter clockwise as required. (Instructions for adjustment are covered in attached SK.#10.)

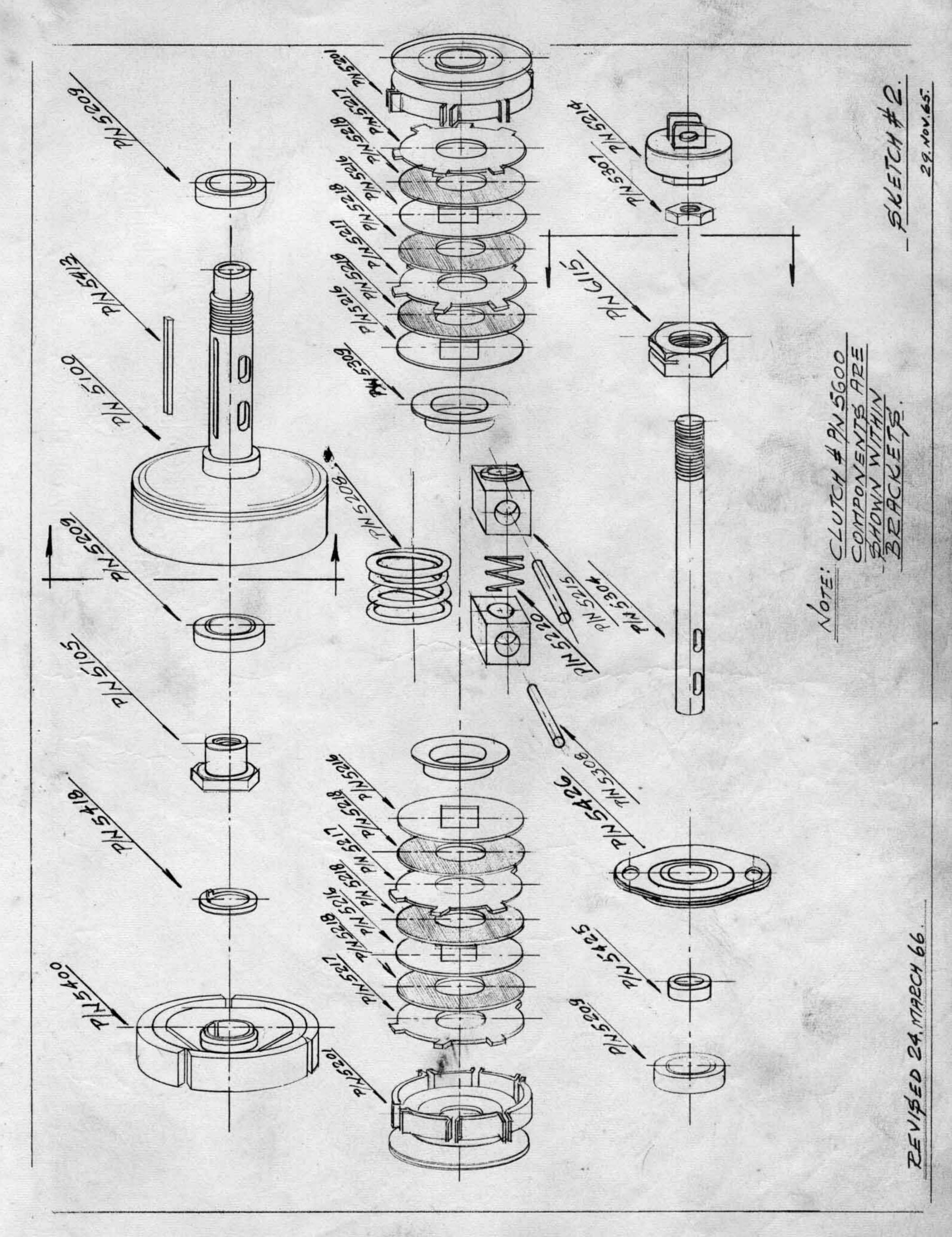
The next check or adjustment of brakes, (before the 20 - hour maintenance) should be carried out after a 4 - hour driving period.

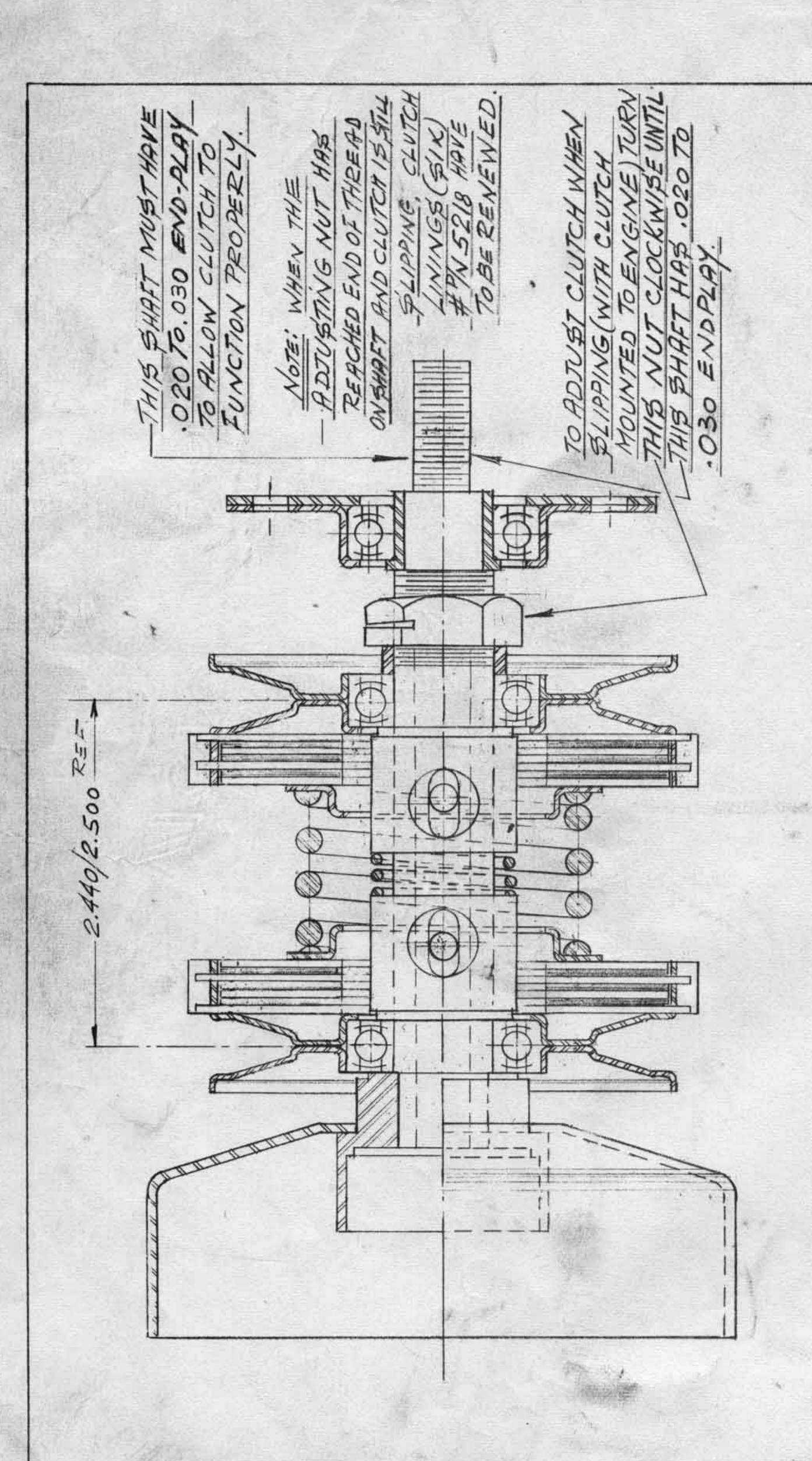
CLUTCH:

The throw-out shaft must have an .020 to .030 end-play at all times. This is the prerequisite for a properly functioning clutch.

Clutch linings (6) have to be replaced when adjusting nut has reached end of thread and clutch is still slipping. Both clutch halves have to open equally when steering column is turned left or right.

(Instructions for adjustment are covered in attached SK.#10)



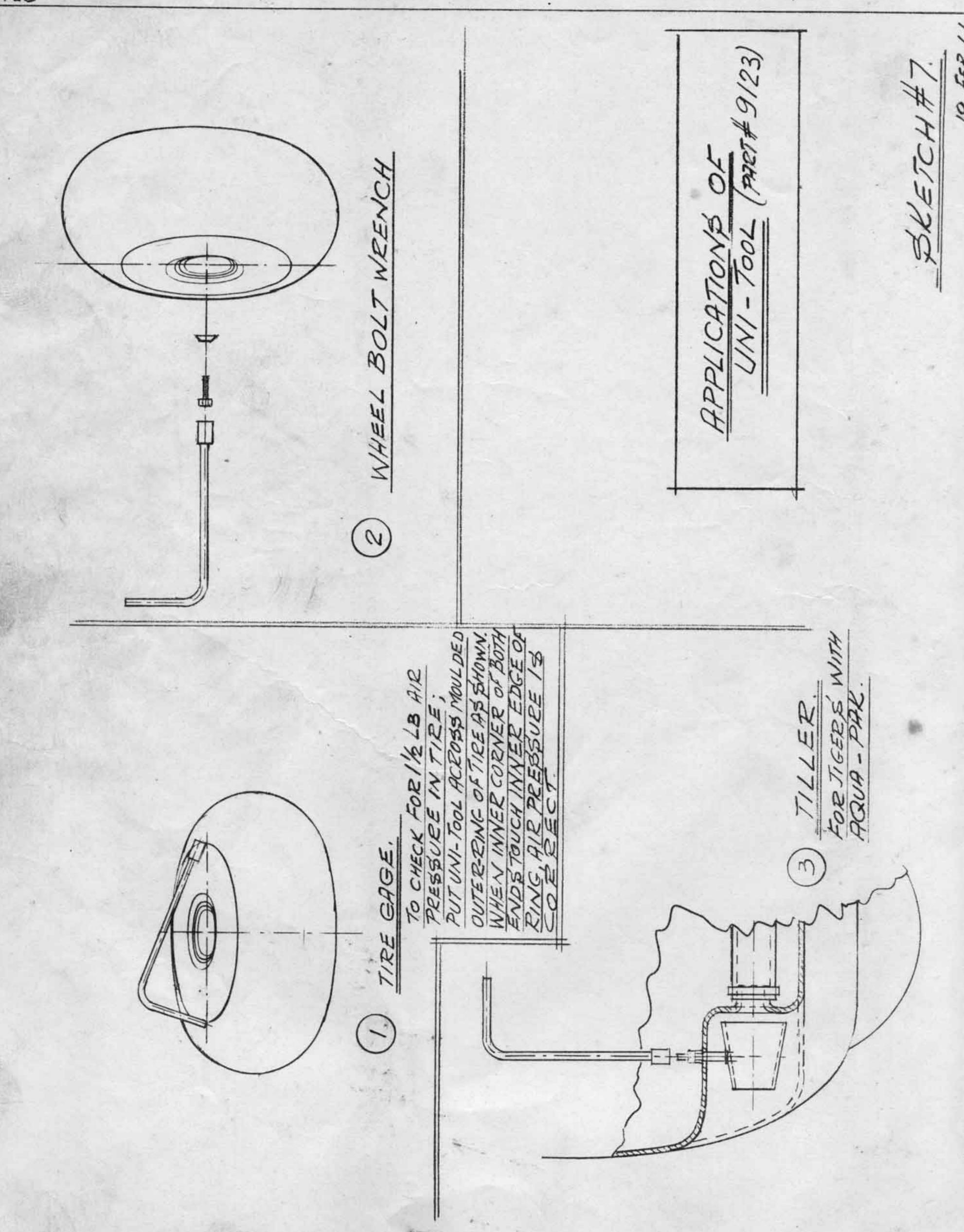


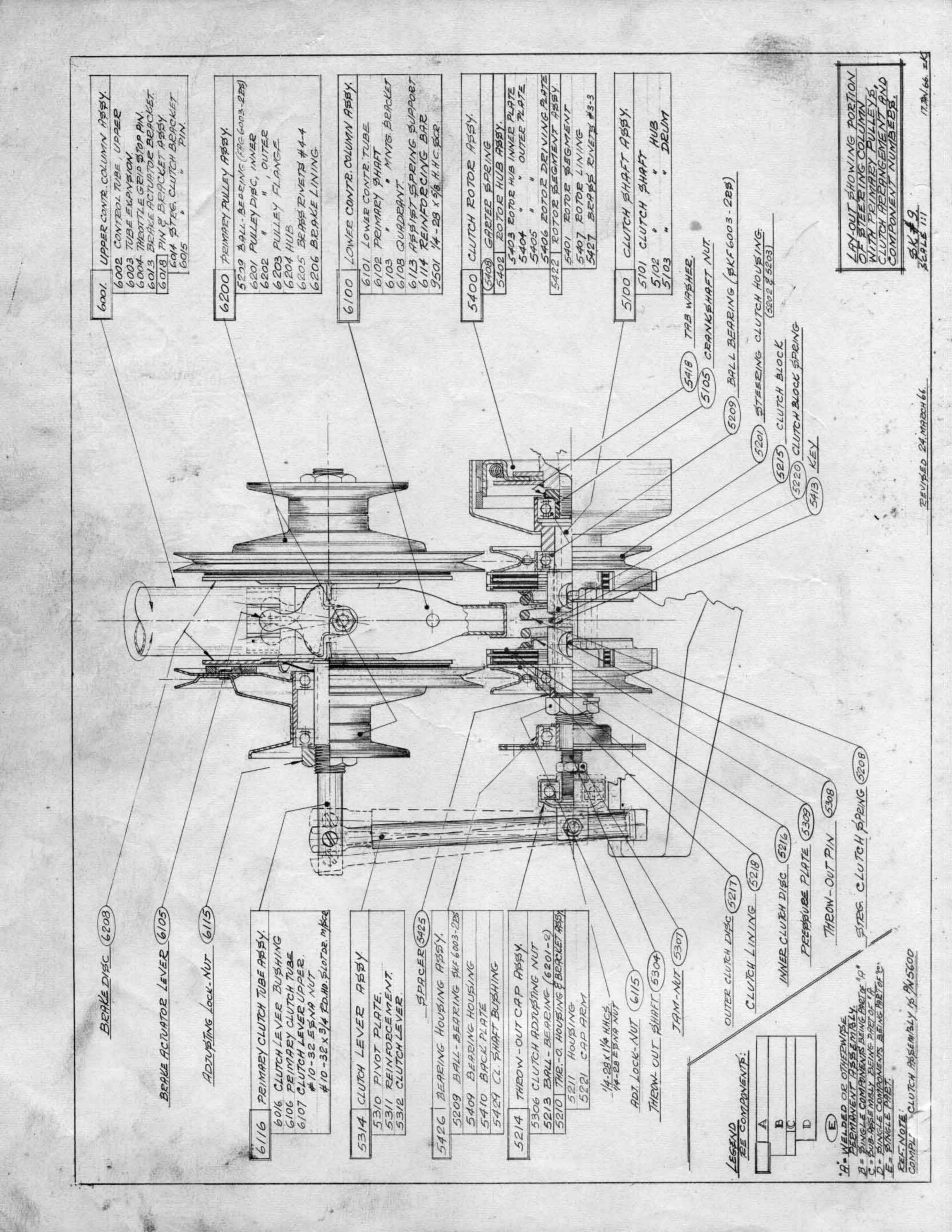
SECTIONAL VIEW OF # PN 5600.

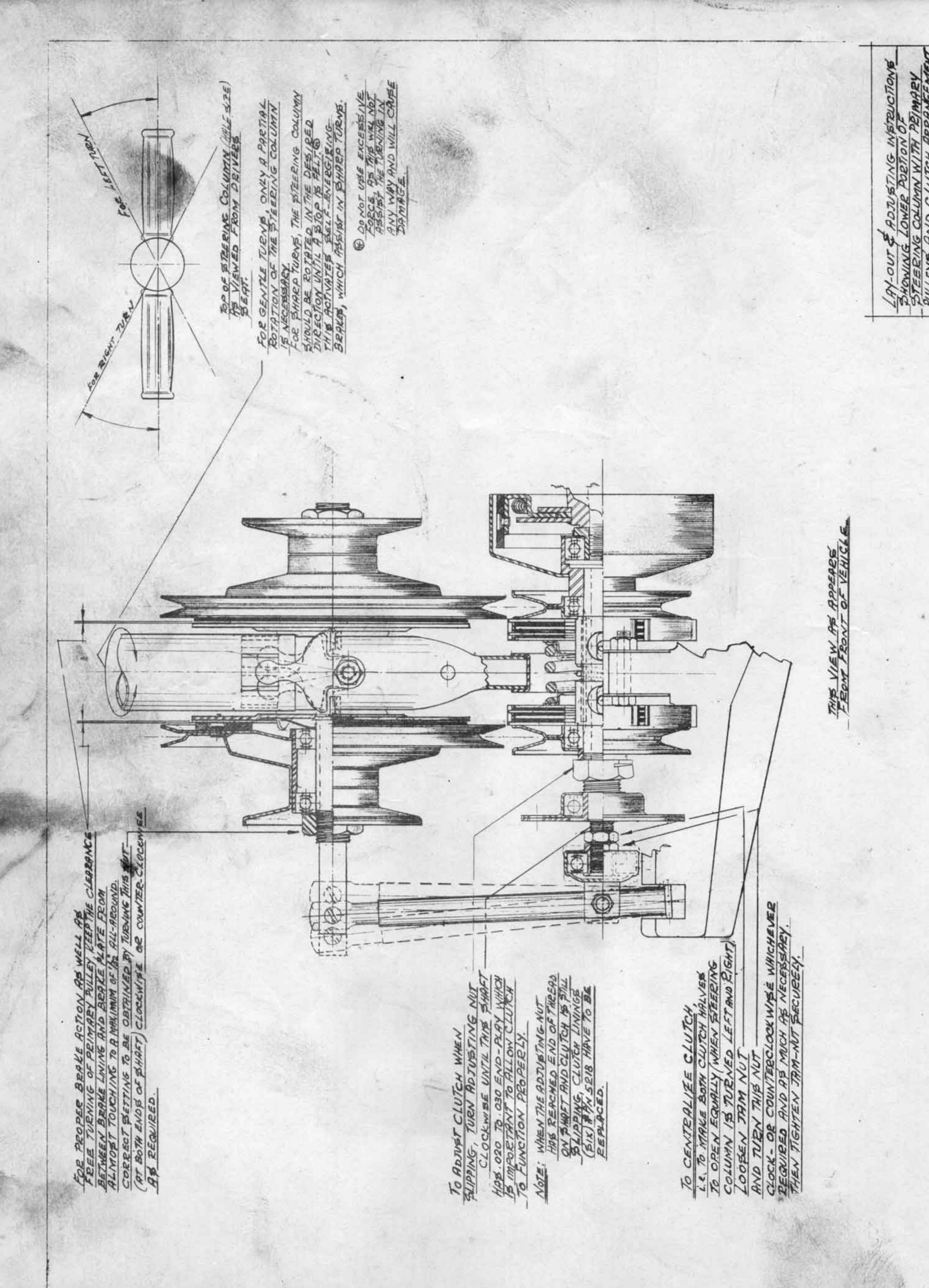
NOTE: FOR CLUTCH COMPONENT NUMBERS SEE SKETCH #2

SLETCH 2A.

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SECTION 3. EMERGENCY PROCEDURES

This section is designed to assist you in making necessary repairs or adjustments in the field, and does not cover regular maintenance procedures.

All adjustments or repairs suggested in this section can be done using only the tools supplied with your JIGER.

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POSSIBLE CAUSE

RECOMMENDED ACTION

Engine will not start, or will not run continuously.

Gas tank valve closed. Open gas tank valve.

Out of gas.

Fill tank with correct gas-oil mixture.

If engines will not start after refueling, there is probably an air-lock in the gas lines. To correct this, disconnect the neoprene hose at the point where it is connected to the engine, and allow enough gas to run through to ensure that there is no more air in the line. Then reconnect the line and put the clamp back in place.

WARNING: Do not allow gas to spill in the JIGER. Use a rag or container when bleeding gas lines, and avoid fire hazard.

Plugged gas line.

Disconnect neoprene hose at engine. If no fuel comes through (with gas valve open) blow through line, until gas runs freely.

Spark plug fouled or engine flooded.

Remove spark plug (on top of engine) and observe condition at electrodes (bottom end) of plug. If electrodes are extremely wet, engine may be flooded; to relieve flooded condition, turn throttle grip to full or wide open position and hold. Turn choke to RUN position. Pull starter cord 4 or 5 times. This will flush out excessive gas mixture in engine. Clean and dry spark plug. (carbon deposits can be scraped from electrodes with pocket knife or screwdriver). Spark can be checked by holding spark plug lower body against motor housing with plug cable connected. Pull starter cord briskly and watch for spark at electrodes. If no spark occurs, plug is defective and must be replaced.

Engine not getting fuel due to carburetor adjustments.

Make carburetor adjustments as follows: See Fig. 1. for location of adjusting screws.

(a) Low speed screw: (L) Close screw finger tight. (turn clockwise) Then back screw off 1 turn from the closed position. MAKE THIS ADJUSTMENT WITH ENGINE NOT RUNNING.

TROUBLE	POSSIBLE CAUSE	RECOMMENDED ACTION
Engine will not start, or will not run continuously. (Continued)	NOTE: All final adjustments must be made with engine warm.	 (b) High speed screw: (H) Same as low speed screw. (c) Start engine. (d) Idling adjustment screw: Turn idling screw clockwise until clutch starts to engage. (Jiger starts to creep forward) Then turn screw back (counter clockwise approximately ½ turn.
		Allow engine to warm up and make final adjustments in following order:
		 (e) Low speed screw: This adjustment must be made with engine idling and JIGER standing still. Turn adjustment screw in (clockwise) until engine speeds up and then back off ½ turn. (counter clockwise) (f) Re-adjust idling screw as outlined in (d) above.
		(g) High speed screw: (H) If carburator is not provided with fixed high speed jet, turn adjust- ment screw while driving until high- est speed is reached. Then turn back turn.
3. Pulling of starter cord does not turn motor over, or	Starter mechanism defective	An emergency starting procedure is possible by using the following method.
starter cord jammed.		Remove the 4 screws which hold the starter assembly to the engine with 10m wrench from your tool kit, and remove starter assembly, unwind starter cord from starter and slide the rubber starter grip down over cord. Engage knot of the cord in the notch on the cord around cup. Engine can now be started by pulling cord.
4. One or	Shear pins	Slip rubber band off pins. Using pliers

4. One or two tires are not powered. Shear pins broken. See Fig. 4a Slip rubber band off pins. Using pliers in tool kit extract broken pins from sprocket. If difficulty is experienced in extracting the segments of pins left in the axle, push through into hollow axle. Segments can be removed during 60 hour maintenance period. Replace shear pins; put rubber band back in place.

Chain slipped off sprockets

Loosen chain tensioner then re-install chain on sprockets. Check and adjust all chains.

TROUBLE	POSSIBLE CAUSE	RECOMMENDED ACTION
5. One or more tires locked.	Chain jammed.	Check area between bottom of sprockets and trough for screws, pebbles, etc., that could cause jamming. Remove obstruction and check shear pins.
	Chain broken	To remove chain or replace damaged links use chain breaker from tool kit. Install chain breaker on one of the pins of the link to be removed. See Fig. 2. Turn drive screw in until pin comes loose. Remove link. If replacement link or links are used from the tool kit, installation should be as follows:
		Remove clip and plate from replace- ment link and install link in chain. Install plate. Install clip by push- ing clip straight forward onto pins using screw-driver or pliers. Using solid connector link install link in chain. Install plate and rivet pin- heads.
6. JIGER tends to turn with control stick held straight		Replace varidrive belts.
7. Slipping in drive line.	Belts slipping	If a primary belt is slipping, follow procedure for tensioning of primary belt, Section 5, Paragraph C. If a vari-drive belt is slipping, a replacement at the earliest possible time is recommended. Drive cautiously with light loads until belts are replaced.
8. Tire losing air.	Punctured tire.	Examine for air leaks by immersing tire in water. Patch tire as outlined in Section 4, Paragraph F.
	Leaking valve. See Fig. 6 To assure a good seal it is recommended to coat the checkball before installation.	Air valve leaks may be due to dirt under the O-ring air seal. Push the air filler tube provided in your kit in and out of the air filler hole, rotating the tube while pushing, to break the dirt free. O-ring can be replaced by depressing valve ball and pulling out O-ring with a hooked piece of wire. Install new O-ring by working it in place through the inlet hole with a small screwdriver while holding the ball depressed.

SECTION 4.

20 HOUR MAINTENANCE

The following maintenance schedule, carried out after 20 hours of driving is designed to keep your JIGER in efficient operating condition.

The recommended lubricant is Shell Darina AX or equivalent.

A. BODY

Clean and examine for damage. Body repairs can be made using the fibreglass repair ket available at your JIGER dealer. Instructions are included in the kit.

Remove any dirt accumulated inside the JIGER.

WARNING: Make sure that no loose rags, parts, etc. are left in the JIGER after service is completed.

B. POWERPACK See Fig. 5.

Clean accumulation of dirt from the powerpack using a rag or small paint brush and solvent. Examine the belts for signs of wear, (fraying, splitting, etc.). If primary belts feel loose or sloppy, adjust the tension by loosening the column mounting bracket screw, and turning the adjustment screw in until belts are tight. Then re-tighten bracket screw. The belts should be firm but not too taut.

Badly worn varidrive belts should be replaced.

WARNING: Do not allow oil, grease or cleaning solvent to get on the belts.

C. ENGINE

Remove spark plugs and clean if excessive deposit is noted. If a new plug is required, replace with Champion UK-10 or equivalent.

To clean the plug, scrape deposits carefully with a knife or small file. The gaps should be set at 0.020 inches if a gauge is available.

A service station can easily clean and set up the plugs.

D. AIR FILTER

Remove the two screws holding the air cleaner. (see Fig. 1.) Wash the filter sponge in gas and squeeze dry. Reassemble the air cleaner.

E. DRIVE TRAIN

Clean all sprockets and chains with a paint brush and cleaning solvent. Examine for slackness. If chains are slack, loosen and adjust chain tensioner to remove excessive slack. Check that all axle coupler pins, shear and neutral pins are in position and locked securely. If loose, replace. See Fig. 4a. and 4b. for location of pins.

Brush chains and sprockets sparingly with Shell Darina "AX" or equivalent.

F. TIRES

Clean all wheels and examine for cuts. Cuts and punctures can be repaired satisfactorily by patching on the outside in the same manner as automotive inner tubes. (Use JIGER tire repair kit only, available at your dealer.)

NOTE: When installing a wheel on an axle, make sure that locating keys in the wheel engage with the corresponding notches on the axle flange. See Fig. 4a.

G. LUBRICATION

Grease all points indicated on Fig. 4a and 4b. Also accelerator handle at point of contact with steering column, chains and sprockets.

SECTION 5. 60 HOUR MAINTENANCE

It is recommended that the 60 hour maintenance be performed by your Dealer.

A. MAIN PROCEDURE

- (1) Remove seat, backshelf and sub-floor.
- (2) Remove the power pack assembly.
- (3) Remove and check all sprockets, chains and axles. Replace excessively worn parts and re-install; adjust chain.

 NOTE: Chain should be adjusted by sliding chain tensioner up or down. Correct adjustment is when all slack is taken up without stressing chain.
- (4) Remove muffler from engine. Clean exhaust port by scraping out all carbon. Reinstall muffler. Check all bolts and components. Replace where necessary.
- (5) Clean JIGER inside and re-install power pack assembly.

B. V-BELTS

V-Belt drives are simple to install and require minimum maintenance, once installed properly. However, a few points must be borne in mind; it is best when installing belts to do so in matched pairs. A belt in use stretches and matching a new belt with an old belt means that one belt would be longer than the other. The best tension for a V-belt drive is the lowest tension at which the belts will not slip under highest load conditions. Inspect the belts and pulleys regularly, and insure that they are free of oil, grease and other foreign material.

C. PRIMARY BELT TENSION

When When the control column is removed and replaced for any reason, or when the primary belts become slack, the tension of the belts must be adjusted. Provision is made in the control column mounting bracket for the adjustment of the primary drive belts, by raising the front end of the bracket, and so increasing the tension of the primary belts. See Fig. 5.

To adjust the tension proceed as follows:

- 1. Locate the screw securing the control column mounting bracket to the front of the engine mounting frame.
- Loosen the nut and bolt holding the control column mounting bracket to the engine frame. Adjust screw on top of bracket until belts are tight. Retighten the mounting bracket bolt.

D. REPLACEMENT OF AXLE SHEAR PINS

Inspect and replace pins if excess distortion is in evidence. (Use pliers supplied in tool kit).

E. CARBURETOR ADJUSTMENT

Adjust the carburetor setting as outlined in Section 3, item 2.

F. LUBRICATION

Lubricate all points indicated on Fig. 4a. and 4b. NOTE: There is no #1 in Fig. 4a.

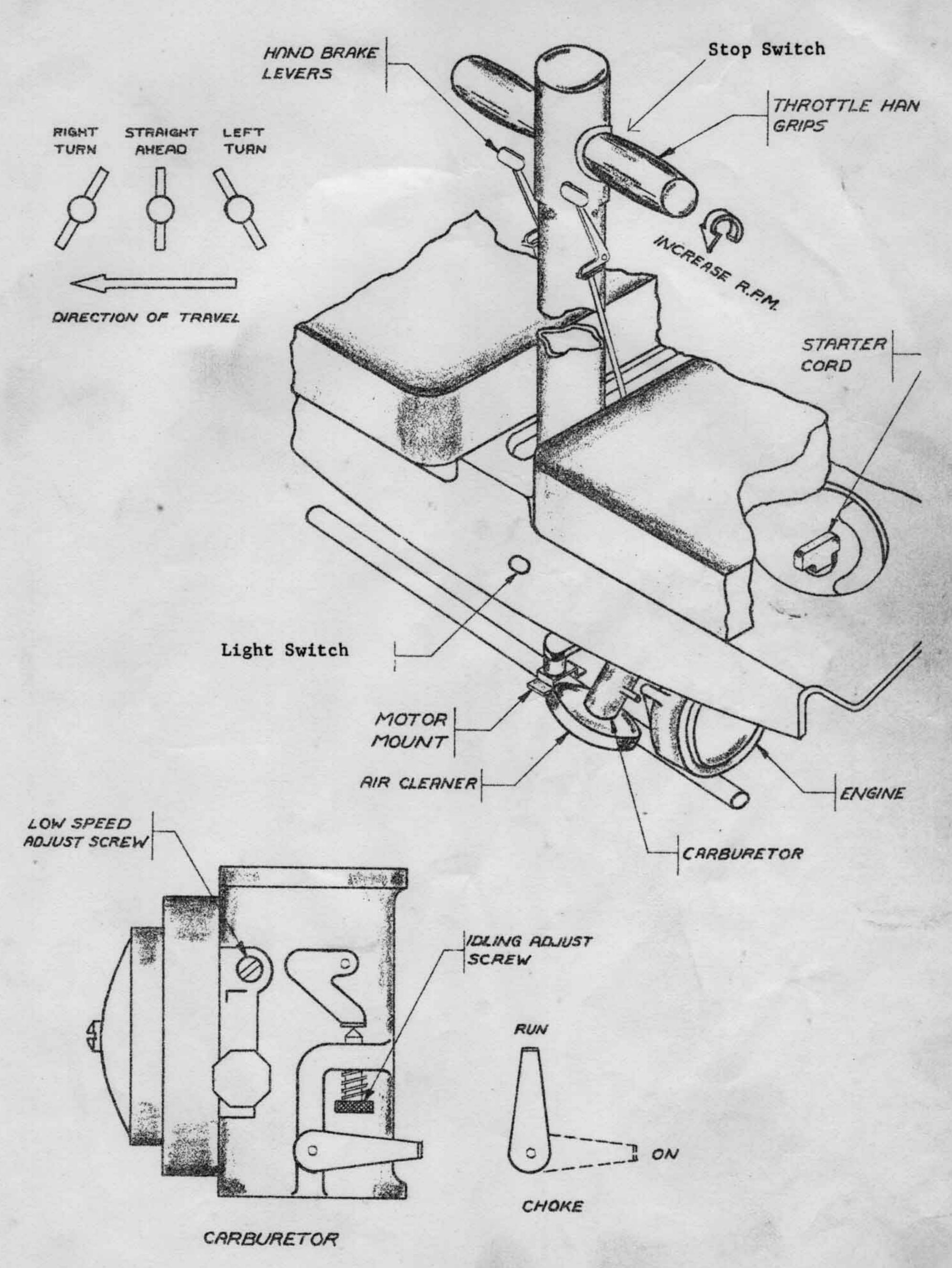
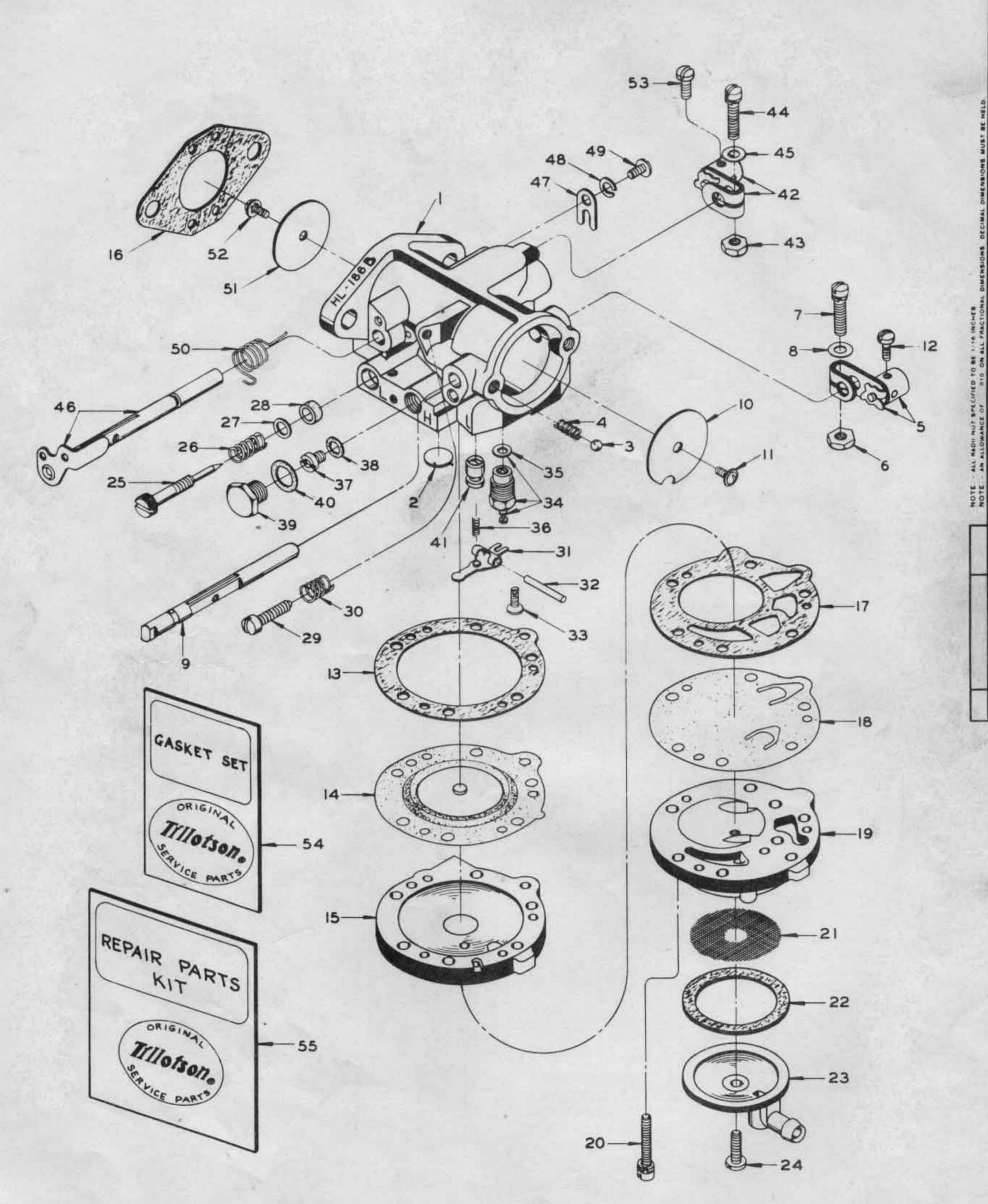


FIG. 1



THE TILLOTSON MFG. CO. TOLEDO, OHIO MODEL:

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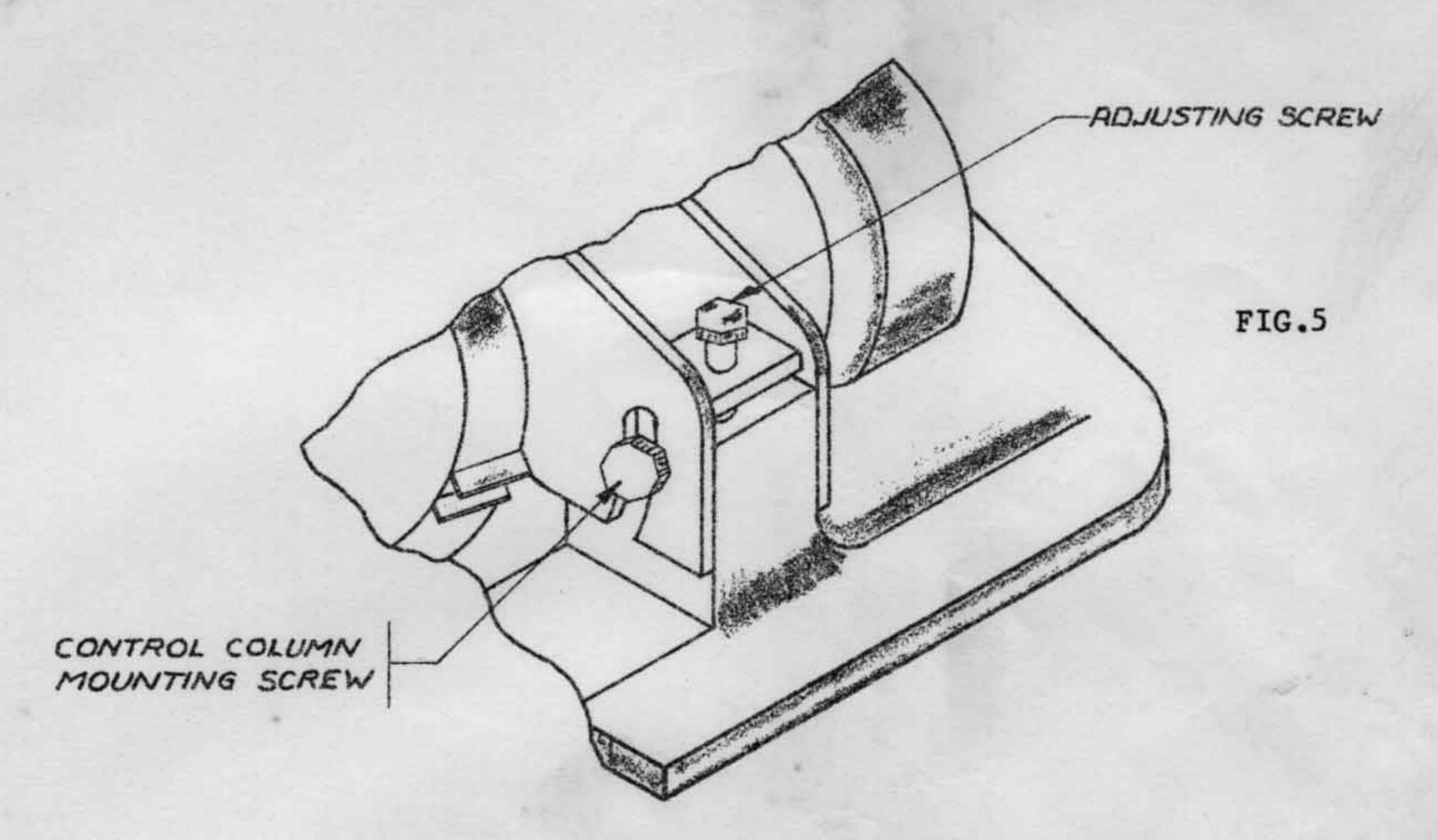
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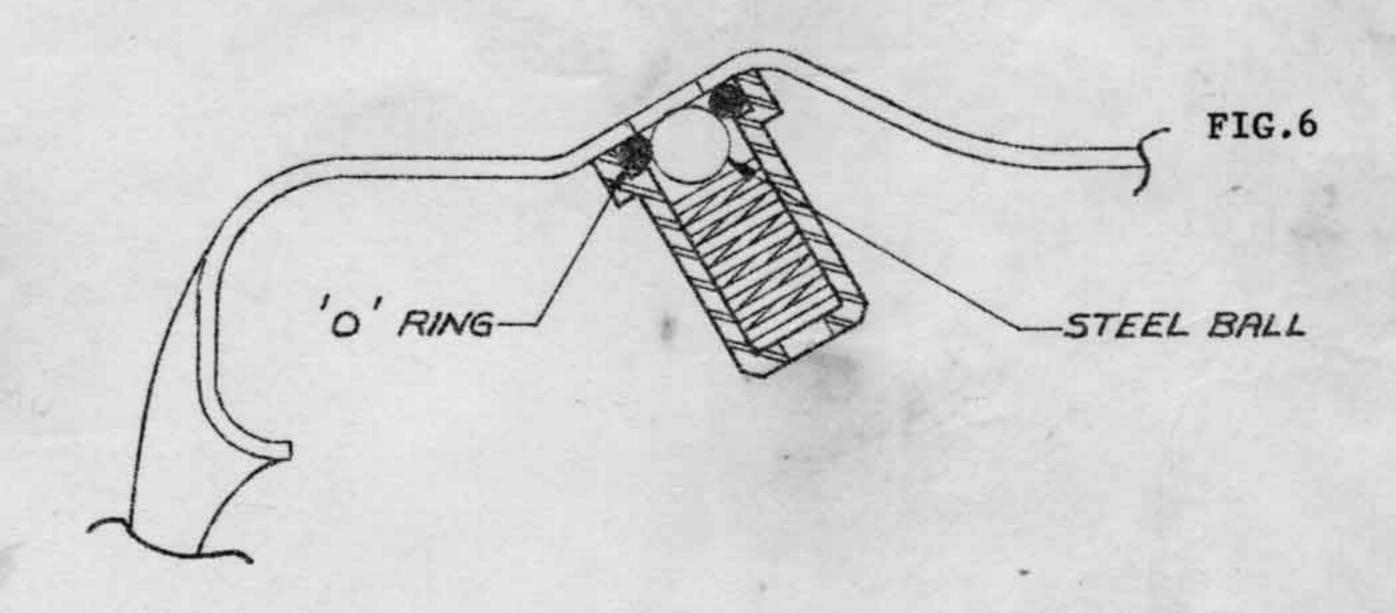
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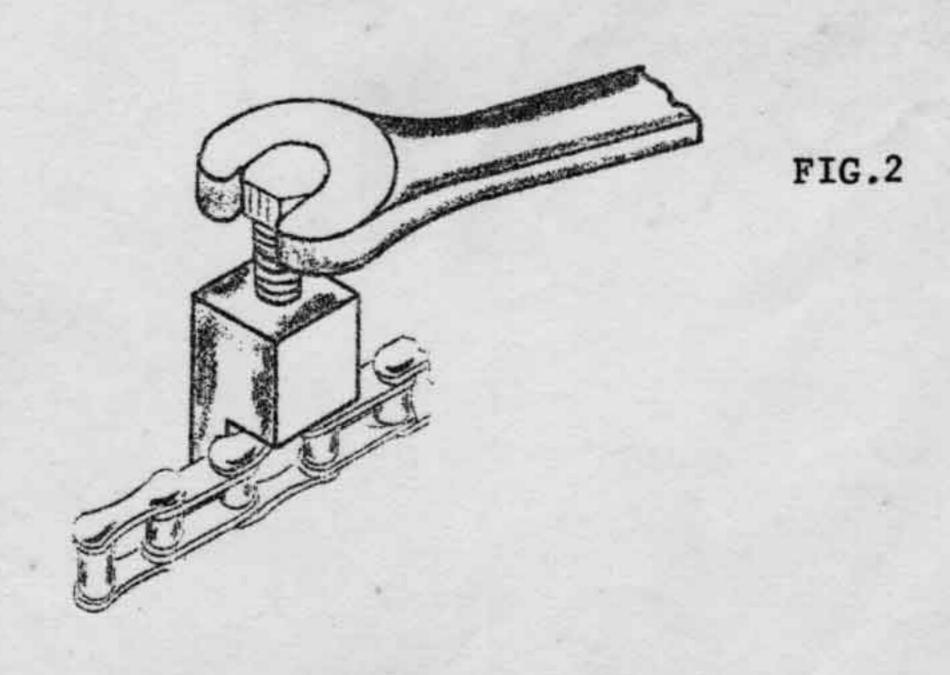
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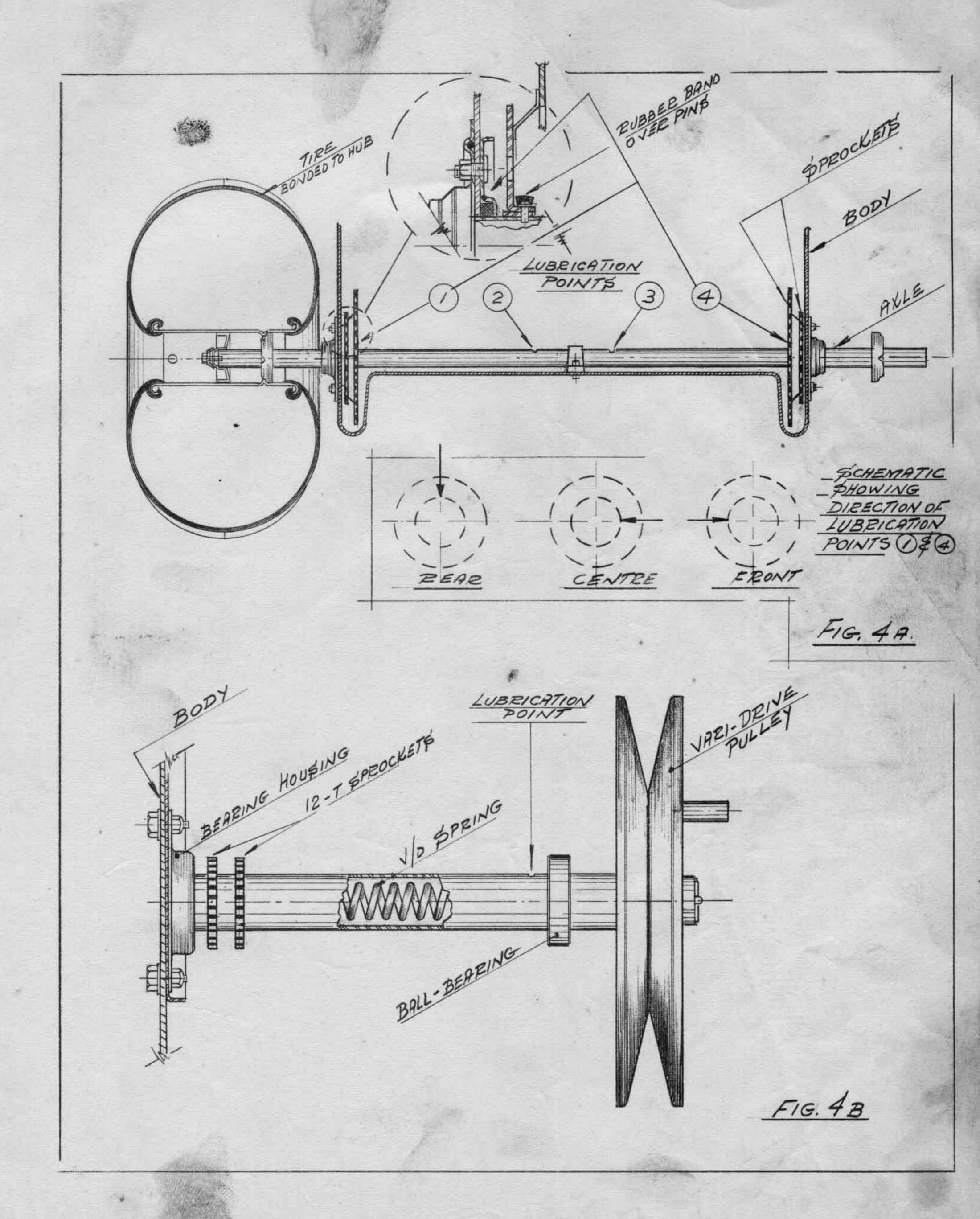
PRIMARY BELT ADJUSTMENT



TIRE AIR VALVE



CHAIN BREAKER



JIGER CORPORATION LIMITED

10 McLachlan Drive,

Rexdale, Ontario, Canada.

LUBRICATION INSTRUCTIONS FOR JIGER

All Lubricating points to be greased with Shell Darina - AX every 20 hours.

GREASE NIPPLE LOCATIONS:

Inside Vehicle: TOTAL - 14

1 on each Inner Axle Bearing Flange on top between chain and body.

1 on each Right-Hand Axle between axle block and sprocket.

1 on each Vari-Drive Shaft between frame and 10T drive sprocket.

Chains:

Apply sparingly a heavy grease, i.e. wheel bearing lubricant.

Fuel:

	Ratio by Volume	
	GAS	OIL
For break-in, first full tank - new vehicle, or new or rebuilt	20	1
engine. Regular Operation	20	1