

# *Thiokol*

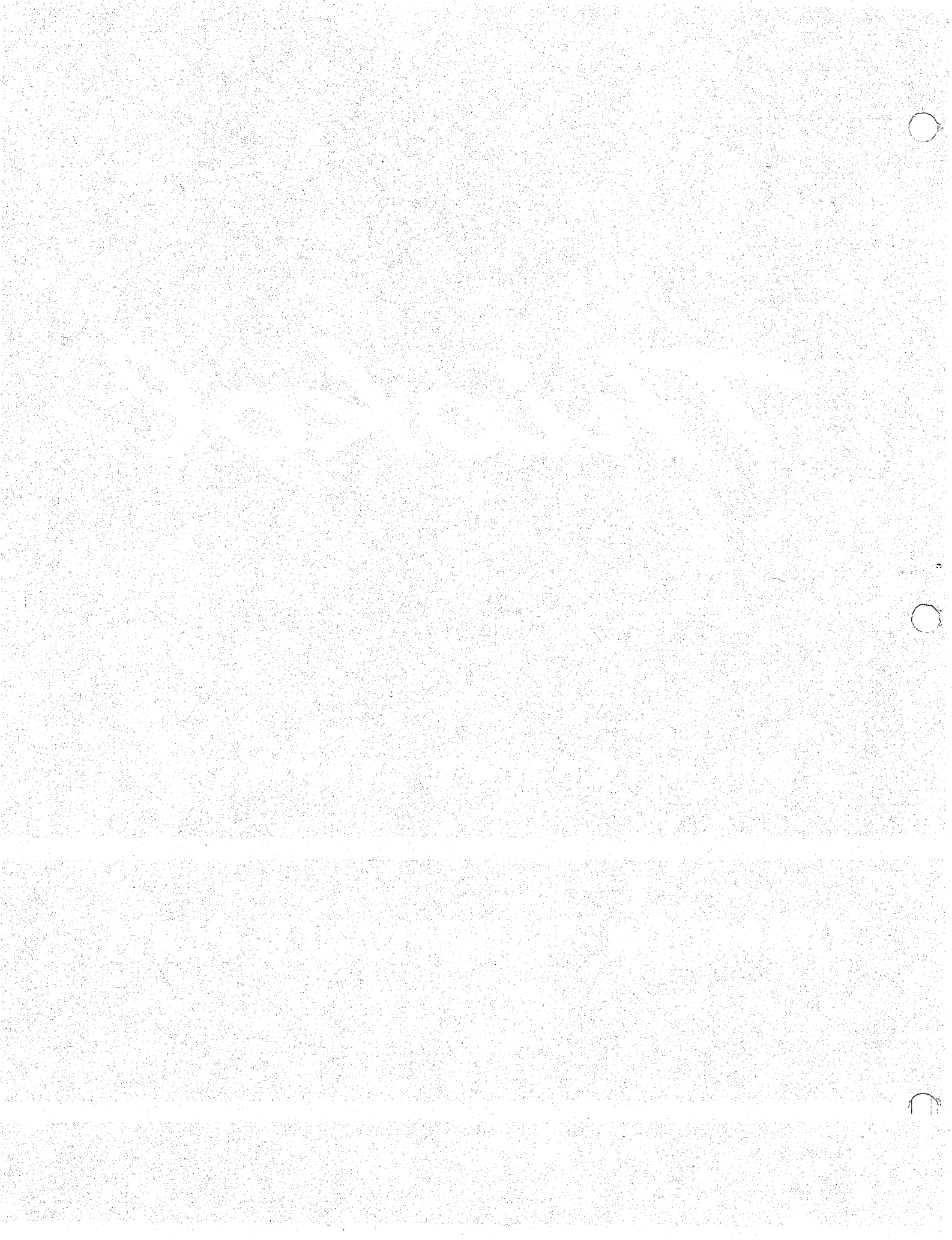
**OFF-HIGHWAY VEHICLES**

**OPERATION • MAINTENANCE • PARTS**

*Manual*

***Thiokol* CORPORATION**

Logan Works - 2503 N. Main Street, Logan, Utah



THIOKOL CORPORATION

MODEL 1404

OFF-HIGHWAY VEHICLES

(From Serial No. 889-on)

S/N T5C 1010

OPERATION, MAINTENANCE, AND PARTS MANUAL

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8/2/74



WARRANTY CLAUSE

Seller warrants that all articles of its manufacture will conform to the applicable specifications and drawings and will be free from defects in material and workmanship. Such warranties, together with seller's service warranties and guarantees, if any, shall run to the buyer. Seller's obligation shall be limited to repairing or furnishing a replacement for any defective article which may prove defective within six (6) months after delivery by seller or after two hundred (200) hours of use, whichever occurs first. Tracks and sprockets are warranted for a period of one (1) year, provided the vehicle has only been operated on snow. Manufacturer reserves the right to make final decision whether a failure is the result of defective material or workmanship.

This warranty shall be inapplicable if the vehicle is loaded beyond its rated capacity or if the instructions for maintenance of the vehicle are not complied with.

## INTRODUCTION

This manual is divided into two main divisions. Part I covers operation, maintenance, adjustment, repair, and replacement instructions. At the beginning of Part I is a Table of Contents which lists the main categories covered by the written material. In general, maintenance categories correspond with the main subdivisions of the machine so that the user can readily turn to the page which deals with the particular part of the machine he is concerned with in any instance. Wherever instructions vary between different models of machines, it is clearly pointed out in the written material.

Part II is the Parts Catalog. It also is preceded by a Table of Contents which lists the main groups or subdivisions of the machine.

Part I of this manual carries a page numbering sequence. Part II is cataloged by group only.

In the written material of Part I, reference is occasionally made to various items by their figure and item number as they appear in the Parts Catalog (Part II). The significance of these numbers is clearly defined under "Catalog Information" in the paragraph entitled "Explanation of the Parts List Format".

# **PART 1**

## **Operation and Maintenance Manual**





PART I

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OPERATION AND MAINTENANCE MANUAL

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SECTION I

DESCRIPTIVE INFORMATION

GENERAL

Thiokol Chemical Corporation's Model 1404 off-highway vehicle is a track-laying type cargo and/or personnel carrier adapted for use over snow, marsh, muskeg, and other difficult terrain.

DATA

Engine . . . . . Ford V4-104, 104 cu. in. 84 BHP, 4 cylinder, liquid cooled.

Transmission . . . . . 3 speed synchronized transmission. Rear transaxle 4 speed, giving 12 forward speeds and reverse.

Steering Differential . . . . Planetary controlled differential in oil bath.

Suspension . . . . . Semi-elliptic springs.

Wheel Base . . . . . 75 inches.

Tread . . . . . 46 inches, std.; 52 inches wide track.

Wheel Size . . . . . Idler wheel, 8 x 2.50.

Tire Size . . . . . Idler tire, 4:80/4:00 - 8.

Track Width . . . . . 24 inches, 25 inches, and 32 inches.

Dimensions . . . . . Overall length - 116 inches.  
Overall width - 70 inches, 71 inches, 74 inches wide track.  
Overall height - 48 inches.  
(to top of handles)

Fuel Capacity . . . . . 10 gallons.

Top Speed . . . . . 25 miles per hour.

## SECTION II

### OPERATING PROCEDURES

#### PRE-STARTING CHECKS

Before starting the engine or driving the vehicle, the following items should be inspected:

Oil and fuel levels should be checked, and the area beneath the engine and drive line components should be inspected for any evidence of loss of lubricant.

All tires should be inspected for proper inflation and possible damage. The tire pressure should be 55 psi and may be varied to meet particular conditions.

Tracks should be inspected for any damage from previous use.

A short pre-trip inspection is advisable and perhaps will avoid a serious breakdown in a remote area.

#### STARTING ENGINE AND WARM-UP

Place the transmission shifting lever in the neutral position and push the clutch pedal fully forward (disengaged position). Turn on ignition switch, close choke (pull out choke button), engage starter button, and depress foot feed.

The choke should be opened gradually as the engine warms up. More chocking is necessary when starting engine in cold weather than in warm.

If several unsuccessful attempts of starting have been made, the choke should be opened fully.

When starting the engine for the first time during the day, it should be allowed time to warm up to the operating temperature before a load is applied. The choke button should always be pushed in after engine is warm.

#### DRIVING ROUTINES

The vehicle is equipped with a 3-speed transmission in front of a 4-speed transaxle. Normal starts may be made by using the appropriate gear for existing conditions.

Steering is accomplished through the planetary differential at the rear of the vehicle. The differential is hydraulically actuated by pulling

the steering levers. A turn to the left is made by pulling the left steering lever; a turn to the right is made by pulling the right lever. The levers should be firmly pulled so that a crisp, definite turn is executed. Extreme force on the steering levers will not effectively tighten the turning radius of the vehicle. It is only necessary to apply enough force to the steering lever to actuate the planetary system. Excessive force only wears out the hydraulic cylinders. (A pull of 25-50 pounds should produce a normal turn.) At high speed, the lever should be handled lightly as the steering is quick and responsive and a skid could be caused by rough handling.

Under very cold conditions, it is extremely important that the vehicle be handled carefully until all members of the driving train are warm. Remember, lubricants are stiff and steel is brittle at extremely cold temperatures. The clutch should be actuated slowly, gear shifting done carefully, and steering handles engaged gently until the driving and steering mechanisms are warmed up.

#### STOPPING THE VEHICLE

The vehicle can be slowed or brought to a stop by pulling both steering levers simultaneously. When both steering levers are actuated, the steering bands act as brakes. The vehicle is stopped in the same manner as with conventional hydraulic brakes.

## SECTION III

### MAINTENANCE PROCEDURES

#### TOOLS

All Model 1404 vehicles are supplied with track jacks as standard equipment. It is recommended, however, that anyone responsible for the driving or care of these vehicles equip themselves with ordinary mechanics tools as may be necessary for general trouble-shooting in the field.

#### ENGINE AND ENGINE ACCESSORIES

The engine, clutch, starter, and generator are supplied by Ford Motor Company, and are described in the parts list provided as a supplement to this manual. Maintenance procedures which are peculiar to this vehicle are described below.

##### Air Cleaner

The air cleaner supplied is an oil bath type. Servicing should be done weekly and with each crankcase oil change. Remove the bowl from the air cleaner and fill to the oil level line with the same grade of oil as used in the crankcase. Detailed instructions are printed on air cleaner. At least twice a year the air cleaner should be removed from the engine and the element, which is not removable, should be washed in a solvent to clean out the accumulated dust and dirt. A collector type pre-cleaner, mounted to the top of the air cleaner, should be emptied of accumulated dirt frequently, depending on the dust conditions.

##### Oil Filter

A by-pass oil filter is furnished with the engine. The oil filtering cartridge should be replaced after every other oil change. If operating conditions are very extreme, replace cartridge after every oil change. Check for leaks after replacing oil filter.

#### FUEL SYSTEM

Use only reputable, well-known brands of gasoline of the regular grade (80 to 96 octane rating).

The choke control cable should be checked occasionally to insure that the choke valve on the carburetor is fully open when the choke control knob is fully depressed.

## SUSPENSION SYSTEM

The wheel bearings should be removed, cleaned, and repacked approximately once a year. Use an "All-Temperature Grease" (Mil-G-10924) for packing the bearings. When replacing grease seal, care should be taken to insure that the seal is properly fitted on shoulder nut. The wheel bearings are adjusted according to standard automotive practice. Spin the hub as the shoulder nut is tightened until a slight amount of drag is noted.

To remove a front wheel from the vehicle, it is necessary to disconnect the track at the lacing pins. When the vehicle is on a reasonably level surface, it is usually not necessary to disconnect the tracks to remove wheels other than the front or rear drive. Wheel installation will be easier if the tire is not inflated until after installation.

## DRIVE SYSTEM

The drive shaft is comparable to a standard automotive drive shaft. The transaxle and differential are contained in an integral drive unit case at the rear of the vehicle and are an industrial tractor type. The transmission is of the standard automotive stick type.

Maintenance of the drive line components should normally consist of regular lubrication and adjustment of the brake bands in the differential. The adjustment of the brake bands is described in the section on "Steering Controls".

Should it become necessary to reline the brakes or perform other major repairs on the transmission-differential unit, refer to "Maintenance Data" as supplied by Clark Equipment Company, which is included as a supplement to this manual.

A final drive axle may be removed from machines by removing the bolts which hold the bearing retainer at the outboard end of the axle housing and pulling the axle, with its bearing, from the axle housing. The only resistance to withdrawing the axle should be the slight interference fit between the axle bearing and the axle housing.

## ELECTRICAL SYSTEM

The electrical system is a 12-volt system. The ignition switch is a key type. Turn the key clockwise for "on" position and counter-clockwise for "off" position.

Each switch controlled circuit is independently fused. The fuses are located in fuse holders mounted on the dash panel.

A wiring diagram is shown in the Parts Catalog section of this manual.

## TRACKS

### Track Tension and Adjustment

Due to the track design, the track tension is not critical. Running the track excessively tight will reduce power and consume excess fuel due to increased rolling resistance. The tracks should only be tightened enough to eliminate slipping. Some slight slipping in turns is considered normal. Adjustment in track tension may be achieved by selecting one of the three mounting positions on the front idler wheel assembly. Caution: Maintain the same length of track on both sides of the vehicle. The front tire should never be run with less than 50 pounds pressure. If, after some use, the tracks have lengthened to the point that enough tension cannot be obtained with the front idler wheel assembly mounted in the forward position, one cleat may be removed and the belt lacing relocated. The track can then be remounted with the idler wheel moved to one of the rear positions.

### Use of Track Jacks

When connecting or disconnecting the belt lacings, one jack is placed in the center of the track and will apply equal tension to both belts. By operating the jack in small increments, the ends of the track section can be brought together and the belt lacing pins may be inserted or removed.

## STEERING CONTROLS

Actuation of the steering brake bands in the differential is accomplished through hydraulic steering controls. These controls consist of the steering levers, master cylinders, hydraulic lines, and slave cylinders.

It is important to have this system bled free of air in order to get correct response. The following procedure should be followed in bleeding the air from the system.

### Bleeding the hydraulic system

Fill the master cylinder with type SAE 70R1 heavy-duty brake fluid. Open the bleeder port on the slave cylinder by turning the nipple 1/4 to 1/2 turn to the left. Slowly pull back the steering lever to force fluid from the bleeder plug. While holding the steering lever back, retighten the bleeder plug. Repeat this operation until all air is removed and the steering lever does not feel "spongy". Recheck the level of the fluid in the master cylinder.

### Adjustment of the Steering Linkage

The steering brake linkage should be adjusted when the free play in the steering lever becomes excessive. The master cylinder should be filled to the proper level and the system bled before attempting the adjustment.

The adjustment is performed on the linkage between the slave cylinder and the brake lever on the differential. Loosen the two nuts on the forward side of the brake lever and screw them toward the slave cylinder so that they will not interfere with the adjustment. Adjust the knife-edge nut to obtain approximately one inch free travel of the steering lever handle, then lock in place with the jam nut. Adjust the two nuts forward of the brake lever to provide .030 to .040 clearance between the washer and the brake lever, then lock the nuts together.

When there is not sufficient adjustment on the slave cylinder linkage, additional adjustment is available inside the differential. To gain access to the differential, the following procedure should be observed.

#### Adjustment of the Steering Brake Bands

Remove the pins from the tracks to relieve the force on the differential housing. Loosen the bolts in the bearing cap on the forward pillow block bearing. Remove the mounting bolts from the rear pillow block bearing. Raise the rear of the chassis to allow the rear of the differential housing to drop down. Remove rear cover plate from the differential to allow access to the internal adjustments. To make these adjustments, refer to the Clark Equipment Company "Maintenance Data" supplied as a supplement to this manual. After internal adjustment of the brake bands, the slave cylinder linkage must be readjusted as described above.

### TRANSMISSION CONTROLS

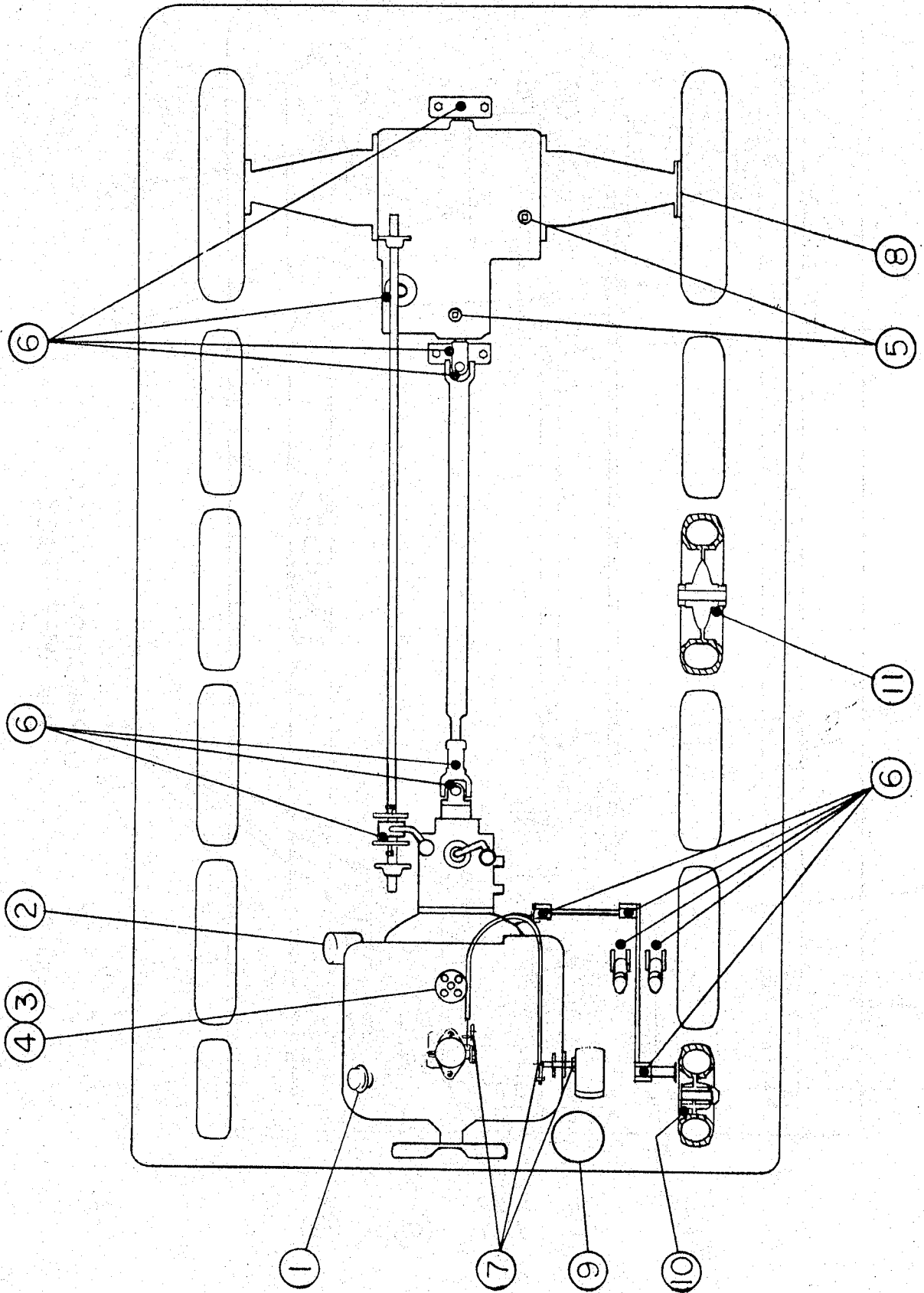
The transaxle shifting linkage and transmission shift tower normally do not require maintenance other than routine lubrication.

#### SHIFTING LINKAGE ADJUSTMENT

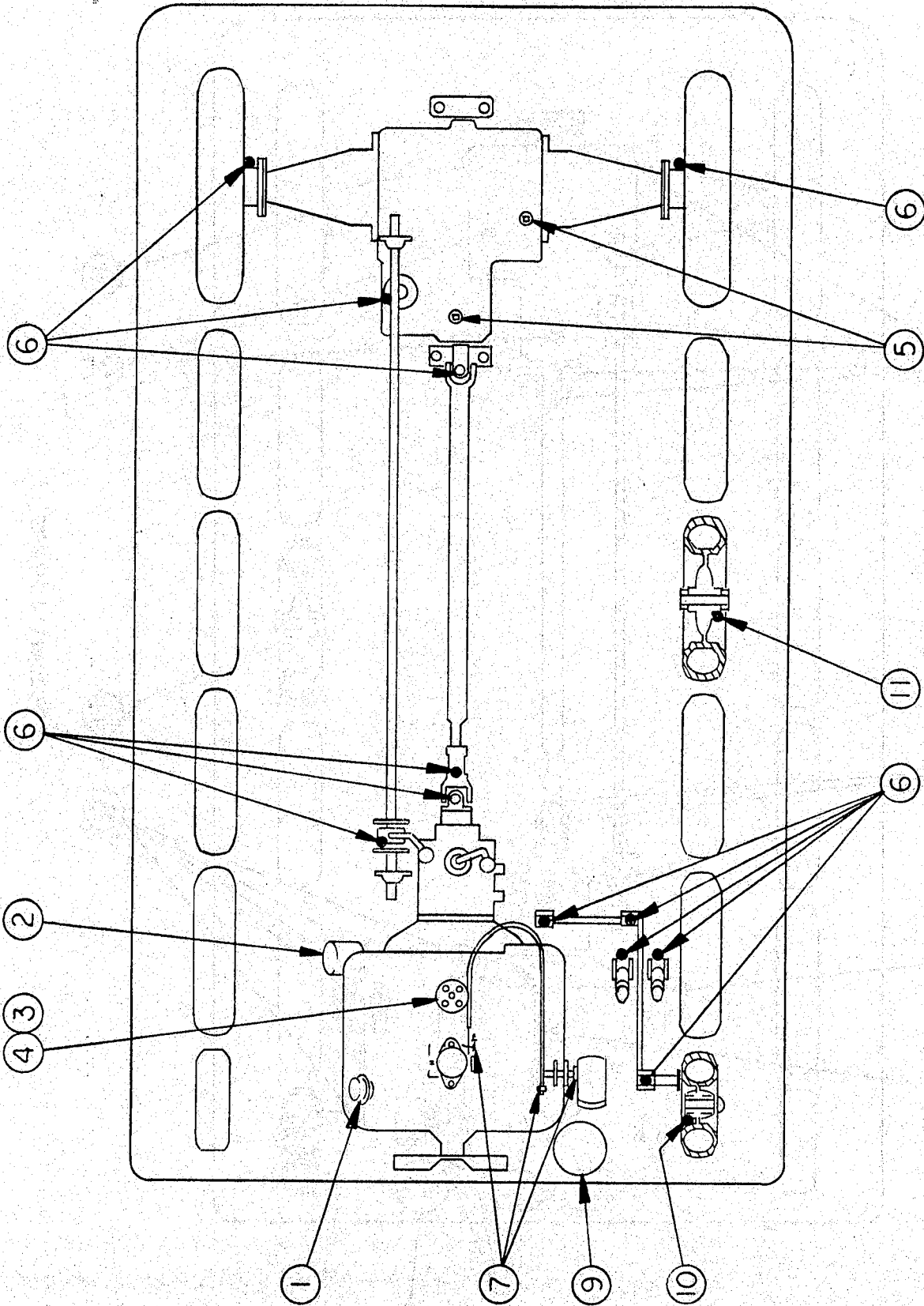
The only adjustment required in the linkage is the shifting cross pivot screws. These are located on the pivot support bracket at the forward end of the linkage.

With the linkage assembled and the transmission in neutral, adjust the pivot screws to locate the shifting cross directly above the forward ball on the shifting control shaft. The shifting control cross should be held snugly between the pivot screws, but not tight enough to bind. Shift into first gear and pull firmly on the shifting lever. If the ball on the control shaft disengages from the cup on the shifting cross, the cross must be moved forward. If the ball can be disengaged from the cup in third gear, the cross must be moved aft. When adjustment is correct, tighten the lock nuts on the pivot screws.





LUBRICATION POINTS



LUBRICATION POINTS  
1404 WIDE TRACK

SECTION IV

SERVICE OPERATION

LUBRICANT REQUIRED

1. ENGINE - Change oil supplied with engine after first 50 hours and every 50 hours thereafter, or at shorter intervals when used at temperatures below 0 F. Oil capacity is 3 quarts. (Add 1/2 quart with filter change.)

MS type engine oil of the viscosity shown below:  
Above 40°F - SAE 30  
5°F to 40°F - SAE 20-20W  
-20°F to 5°F - SAE 10W

2. OIL FILTER - Change filter with each oil change.

Throw-away type cartridge, Ford Part No. C6JZ-6714-B

3. DISTRIBUTOR BUSHING - 3 to 5 drops of oil after every 50 hours of operation in oiler on side of distributor, and 3 to 5 drips to felt on top of cam sleeve. Do not overlubricate.

Engine oil - Medium weight

4. DISTRIBUTOR CAM - Apply a thin film to cam as required.

Distributor cam grease or high melting point grease.

5. TRANSMISSION AND DRIVE UNIT ASSY - Check oil level frequently and add lubricant as required. Drain and refill transmission and differential compartments every 300 hours of operation.

Use the following grades:

Above 0°F - SAE 50 engine oil, heavy duty \*(NOTE)  
Below 0°F - SAE 30 engine oil, heavy duty

\*NOTE: If SAE 50 oil is not available, use SAE 90 straight mineral gear lube, paraffin base. inhibited. Do not use extreme pressure lubricants.

6. GREASE FITTING - Service every 50 hours of operation or as required.

All-temperature grease, MIL-G-10924-A (Texaco All-Temp. Grease or equivalent)

7. CARBURETOR LINKAGE - Lubricate all joints every 100 hours of operation. Do not lubricate cables.

Medium weight engine oil

8. DRIVE AXLE BEARINGS - Sealed ball bearings are used and no lubrication is required.

9. AIR CLEANER BOWL

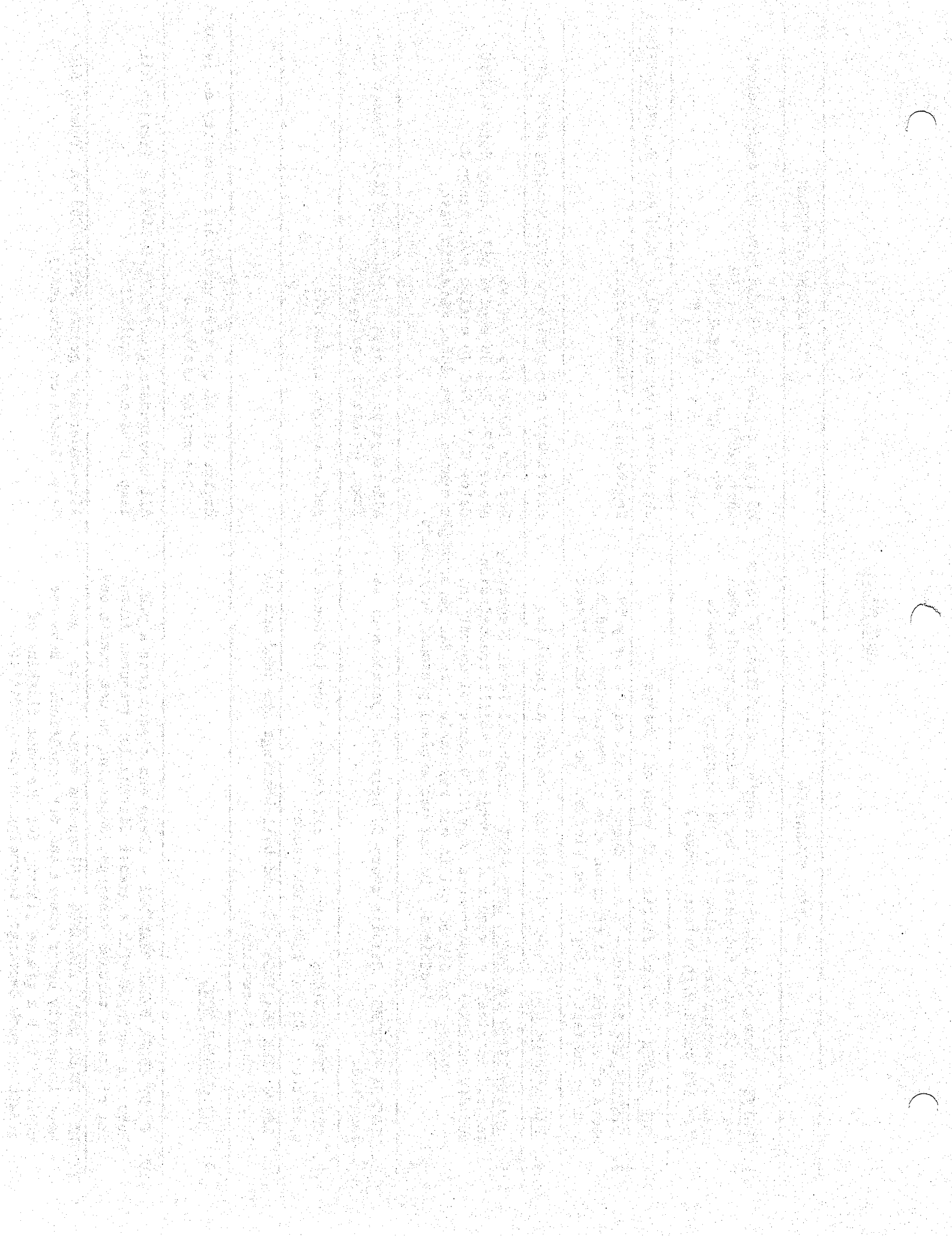
Engine oil of the same grade and viscosity as is used in the engine crankcase

10. FRONT IDLER WHEEL BEARINGS - Clean and repack once a year. Hubs are equipped with a grease fitting for frequent flushing of grease through bearings, depending on use conditions.

All temperature grease MIL-G-10924-A (Texaco All-Temp. Grease or equivalent)

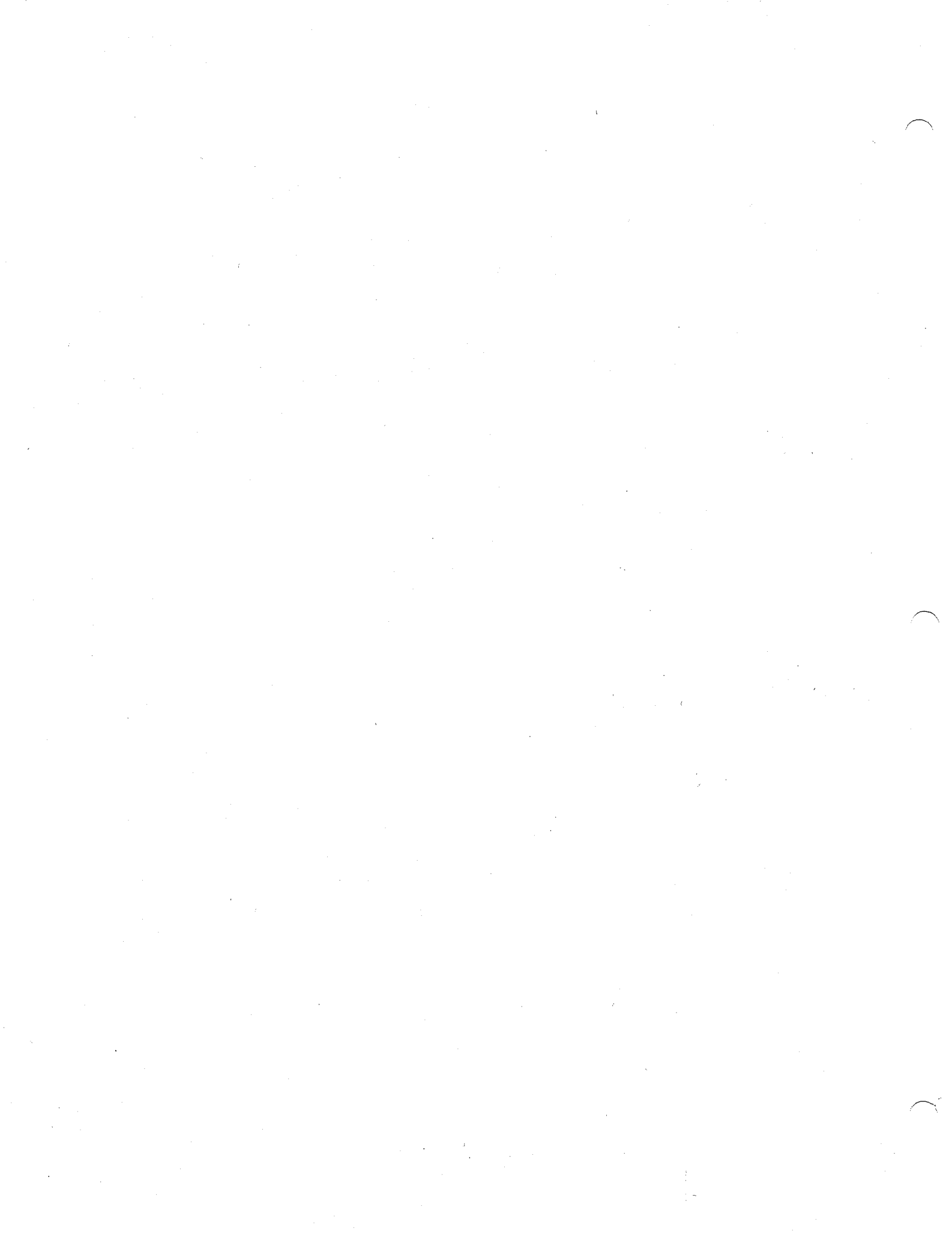
11. MAIN IDLER WHEEL BEARINGS - Clean and repack twice a year; more frequently under severe and wet conditions. Hubs are equipped with a grease fitting for frequent flushing of grease through bearings, depending on use conditions.

All-temperature grease MIL-G-10924-A (Texaco All-Temp. Grease or equivalent)



# **PART 11**

## **Parts Catalog**



PART II

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COLOR - DELSTAR LHS

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## CATALOG INFORMATION

This catalog divides the vehicle into several groups and sub-groups. (See Parts Catalog Table of Contents.) Each group is illustrated and the illustration appears on the left-hand page opposite the first page of that group.

### EXPLANATION OF THE PARTS LIST FORMAT:

The first column, "Item Number" consists of the recognized number by which parts are ordered.

The "Quantity" column indicates how many of the particular parts are required per vehicle. However, if the name of the part is indented in the "Description" column, it is a part of a sub-assembly; therefore, the number in the "Quantity" column indicates the number required per the next sub-assembly above it.

The "Description" column contains the names of the parts. It is the only recognized name coinciding with the part number, and it should be used just as it is listed. Sizes and other additional information follow some of the names. Sizes are called out in inches. The symbol for "inches" has been omitted. Abbreviations used in the description are listed on Page 2.

### HOW TO ORDER PARTS:

Orders for parts must include the complete part number and quantity of each item needed. Use the name as it appears in the "Description" column wherever possible. It is important that the vehicle serial number be listed when ordering parts. The serial number will be found on the identification plate. Send orders to Thiokol Chemical Corporation, P.O. Box 407, Logan, Utah 84321.

## ABBREVIATIONS

adj.	-	adjusting
al.	-	aluminum
amp.	-	ampere
A/R	-	as required
assy	-	assembly
dia.	-	diameter
fil.	-	fillister
hex.	-	hexagon
hd.	-	head
I.D.	-	inside diameter
lg.	-	long
L.H.	-	left-hand
mat'l.	-	material
med.	-	medium
MFD	-	microfared
mfg.	-	manufacturer
N/A	-	not applicable
NC	-	Unified National Coarse
NF	-	Unified National Fine
NPT	-	American Standard Taper Pipe Threads
O.D.	-	outside diameter
O/S	-	oversize
Qty.	-	quantity
rd.	-	round
ref.	-	reference
reg.	-	regular
req'd.	-	required
R.H.	-	right-hand
SAE	-	Society of Automotive Engineers
S/N	-	serial number
sq.	-	square
std.	-	standard
stl.	-	steel
TCC	-	Thiokol Chemical Corporation
thk.	-	thick
U/S	-	undersize



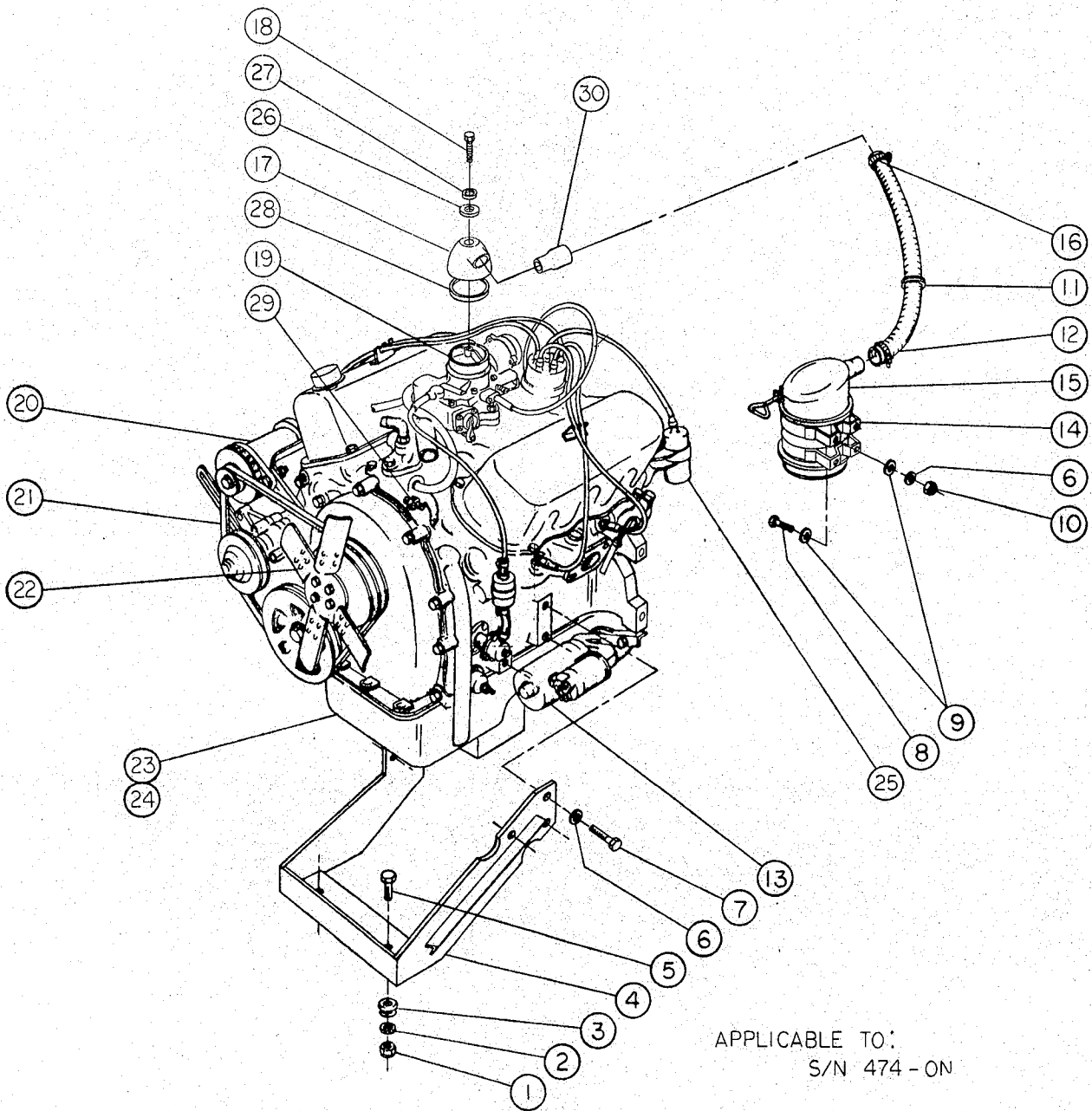


FIGURE 2-6A  
 (MODEL 1404)

ENGINE & ENGINE ACCESSORIES  
(Model 1404)

See Figure 2-6A

<u>Item No.</u>	<u>TCC Part No.</u>	<u>Ford Part No.</u>	<u>Qty.</u>	<u>Description</u>
1	01525-39		2	Elastic stop nut, 7/16-20 NF
2	1402120		2	Snubbing washer
3	1402085		2	Motor mount
4	1402086		1	Bracket, motor mount
5	01500-104		2	Hex. hd. cap screw, 7/16-20 NF x 2 1/8
6	01554-8		10	Split lock washer 3/8 med.
7	1402164		6	Hex. hd. bolt, M10 x 20 (metric)
8	01501-36		4	Hex. hd. cap screw, 5/16-18 NC x 3/4
9	01550-8		4	Flat washer, 5/16 small
10	01520-7		4	Hex. nut, 5/16-18 NC
11	1407159		A/R	Grommet strip
12	1402126-7		1	Flexible tubing
		104GF-6003-G	1	Engine assy, Ford 104 cu. in V-4 (Includes next 16 items)
13	1402116	436735	1	Starting motor
14	1402141	B8P-9628-A	1	Band assy.
15	1402124	B8P-9600-A	1	Air cleaner assy.
16	01675-10	8A-8287	4	Clamp air cleaner
17	1402154	C3JZ-9521-A	1	Air horn, mod.
18		221346	1	Hex. hd. bolt, M6 x 40 MM (metric)
19	1402145	436198	1	Carburetor
20		C6FF-10300-6	1	Alternator
21		COAZ-8620-Z	1	Fan belt
22	1406007	436842	1	Fan blade
23	1402128	C6JZ-6675-E	1	Oil pan assy.
24	1402129	C6JZ-6622-B	1	Oil pump screen & cover assy.
25	1402117	CONF-12029-A	1	Coil assy.
26		B2P-9611-A	1	Seal, air horn
27		44719-S8	1	Washer
28		403576	1	Gasket
29	0602006		1	Temperature sending unit
30	1402155		1	Connecting tube
31	2102044		1	Fan spacer (not shown)

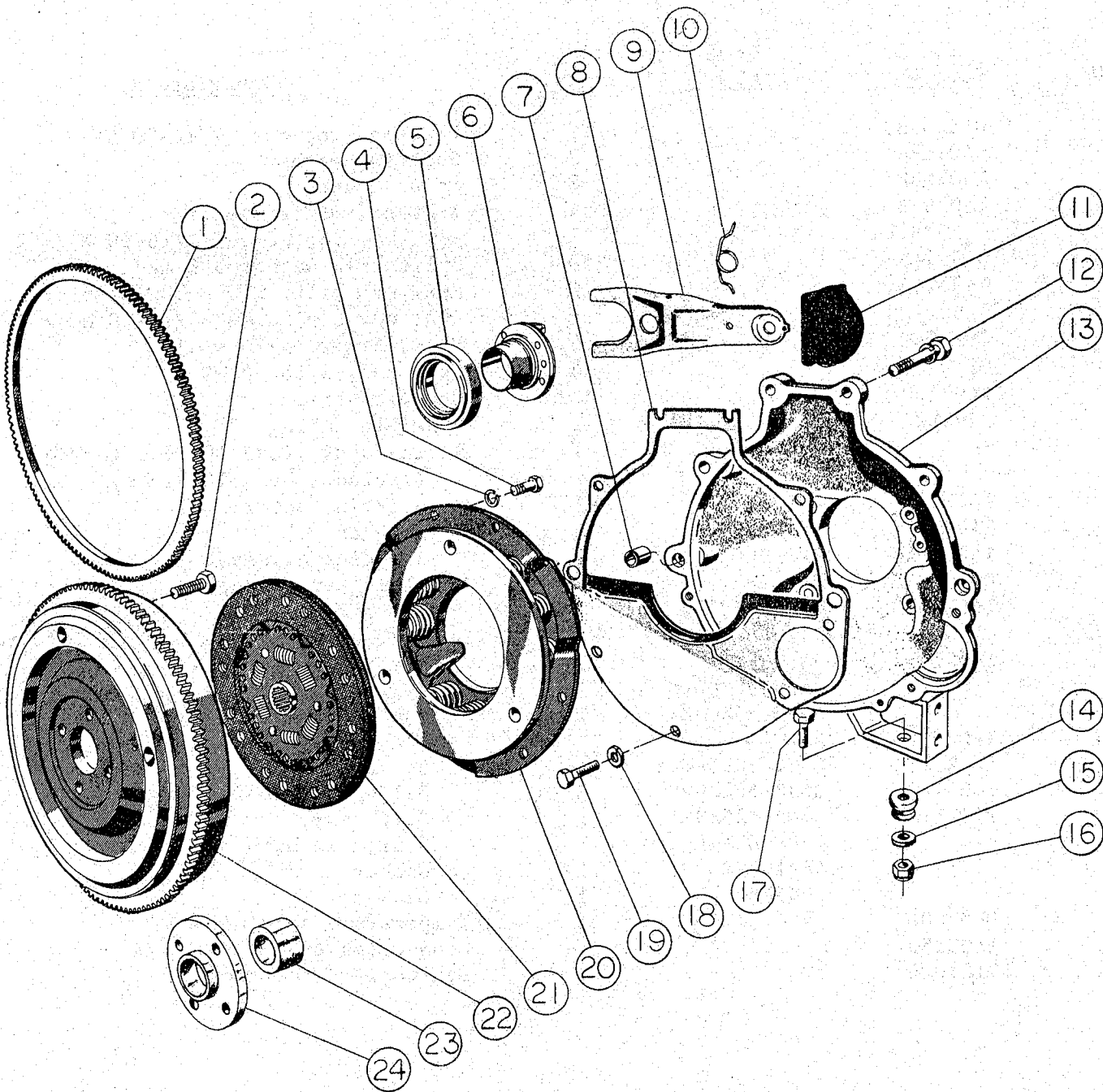


FIGURE 3-6  
(MODEL 1404)

CLUTCH  
(Model 1404)  
1403059-1

See Figure 3-6

<u>Item No.</u>	<u>TCC Part No.</u>	<u>Ford Part No.</u>	<u>Qty.</u>	<u>Description</u>
1		405073	1	Gear, flywheel starter ring
2	1403033	225605	6	Hex. hd. bolt
3		34806-S	6	Lock washer, 5/16
4	1403032	233825	6	Hex. hd. bolt
5	1403012	CIDZ-7580-A	1	Clutch release bearing
6	1403018	C7JZ-7561-A	1	Hub
7		C3HW-4A044-A	1	Dowel
8	1402138	C3JZ-7007-A	1	Plate, rear engine
9	1403019	CODZ-7515-A	1	Clutch lever
10	1403027	AB-7562-A	1	Spring
11	1403026	C30Z-7513-A	1	Shield Assy.
12	1403034	233575	6	Hex. hd. bolt & lock washer assy.
13	1403017	C7JZ-6392-A	1	Clutch housing
14	1402085		2	Motor mount
15	1402120		2	Snubbing washer
16	01525-39		2	Elastic stop nut, 7/16-20 NF
17	01500-104		2	Hex. hd. cap screw, 7/16-20 NF x 2 1/4 lg.
18		206436	4	Lock washer
19		202726	4	Hex. hd. bolt
20	1403021	436177	1	Pressure plate assy.
21	1403015	C2UZ-7550-A	1	Disc assy.
22	1403016	436015	1	Flywheel assy.
23	1403013	C7JZ-7600-A	1	Pilot shaft bearing
24	1403011	C7JZ-7599-A	1	Adapter

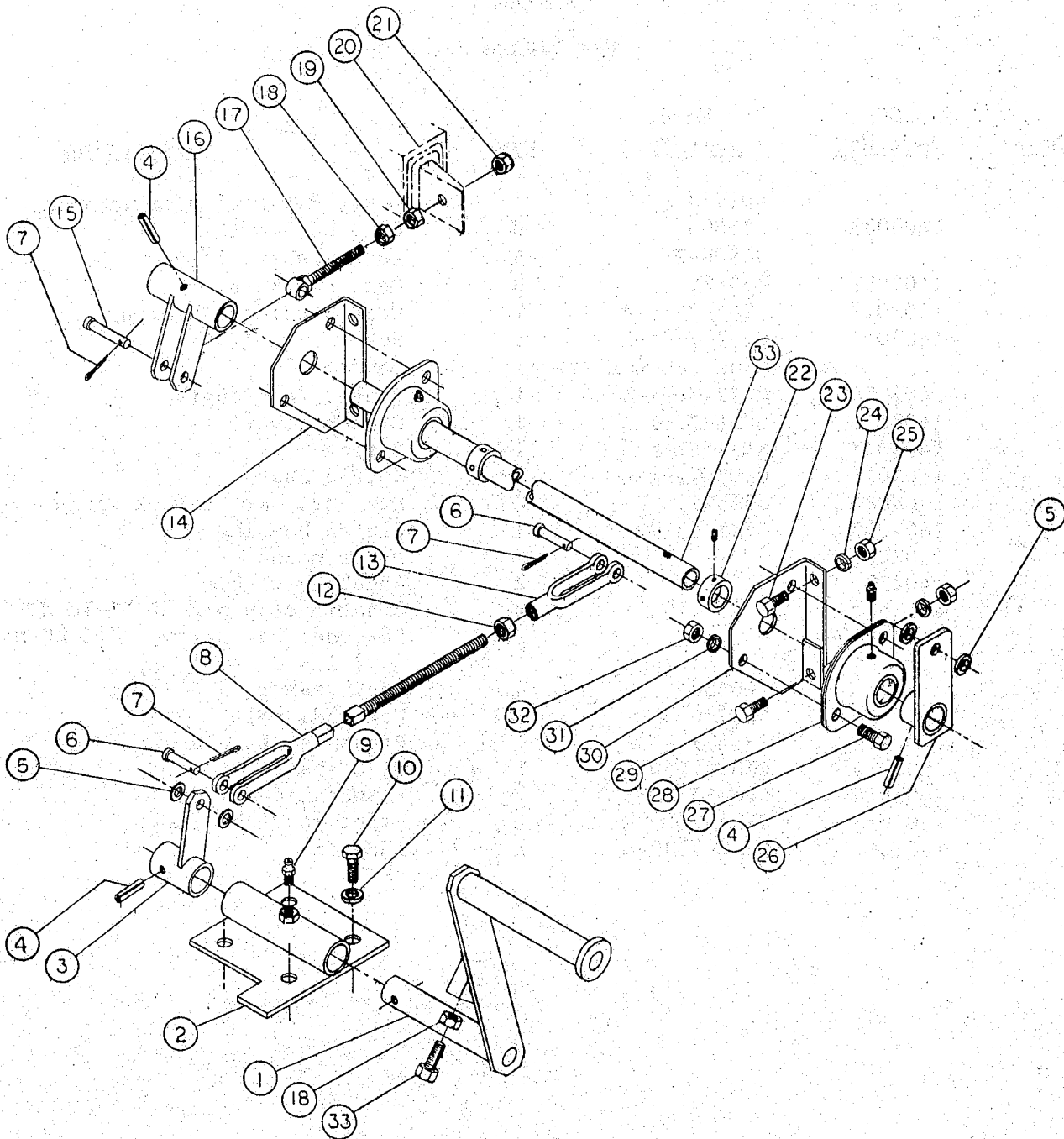


FIGURE 3-9  
(MODEL 1404)



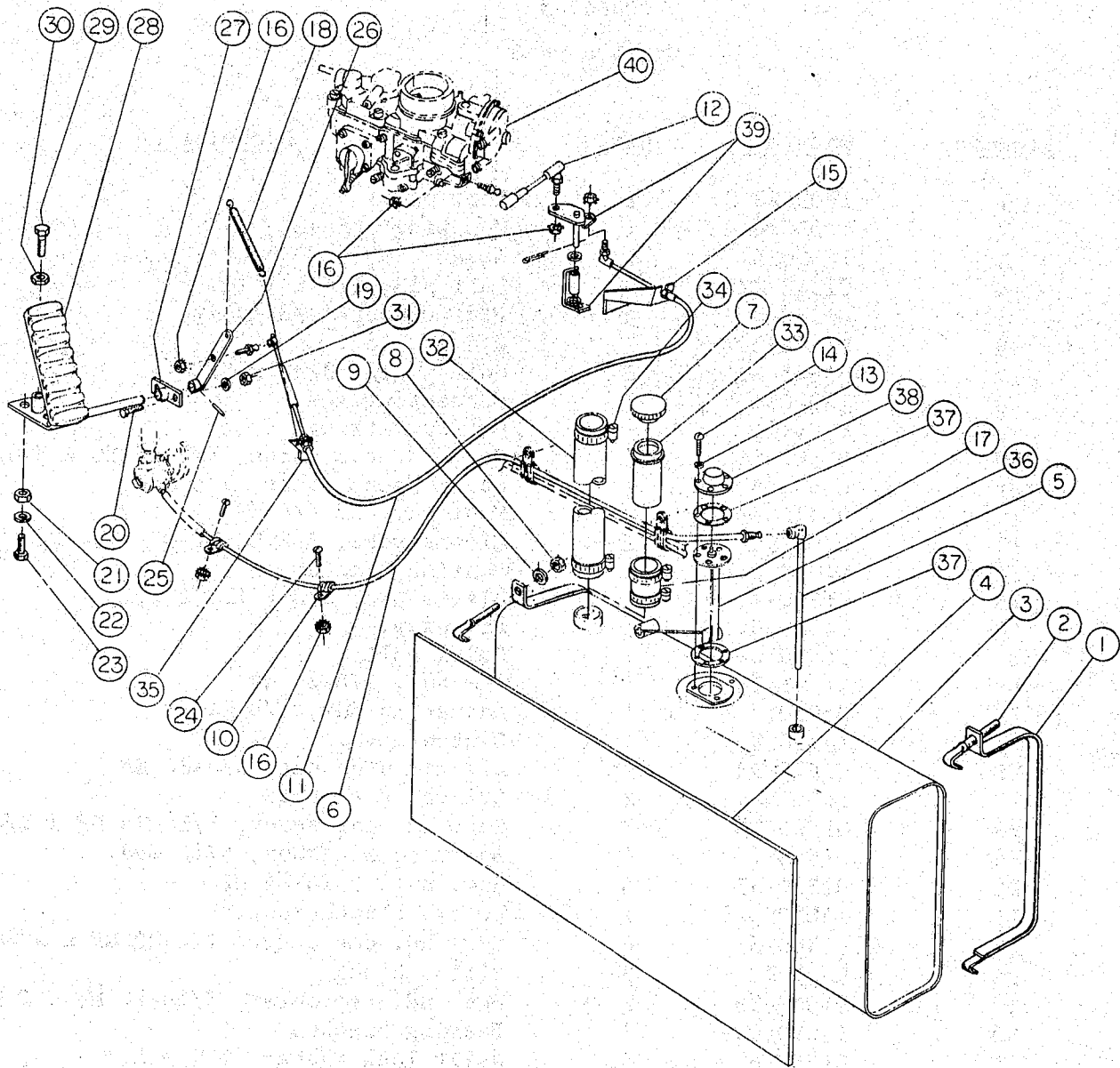
## CLUTCH CONTROLS

(Model 1404)

1403047-3

See Figure 3

<u>Item No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
1	1403023-3	1	Foot pedal
2	1403024	1	Mounting bracket
3	1403025	1	Lever
4	01542-224	3	Roll pin, 1/4 x 1 lg.
5	01550-9	4	Flat washer, 3/8 small
6	01540-202	2	Clevis pin
7	01541-82	3	Cotter pin, 3/32 x 3/4 lg.
8	1403004	1	Connecting rod
9	0101281	1	Grease fitting
10	01501-66	4	Hex. hd. cap screw, 3/8-16 NC x 3/4 lg.
11	01554-8	4	Split lock washer, 3/8 med.
12	01520-38	2	Hex. nut, 3/8-24 NF
13	0101290	1	Clevis yoke, 3/8-24 NF
14	1403050-1	1	Bearing bracket
15	01540-204	1	Clevis pin, 3/8 x 1.031 lg.
16	1403040-1	1	Arm assy.
17	1403010	1	Swing bolt
18	01521-38	1	Jam nut, 3/8-24 NF
19	0103019	1	Adjusting nut, 3/8-24 NF
20	1403019	1	Clutch lever
21	01525-38	1	Elastic stop nut, 3/8-24 NF
22	1403049	2	Collar, set screw
23	01500-36	3	Hex. hd. cap screw, 5/16-24 NF x 3/4 lg.
24	01554-7	4	Split lock washer, 5/16 med.
25	01520-37	4	Hex. nut, 5/16-24 NF
26	1403052-3	1	Lever, clutch control
27	01500-6	4	Hex. hd. cap screw, 1/4-28 NF x 3/4 lg.
28	1403048	2	Pillow block
29	01500-38	1	Hex. hd. cap screw, 5/16-24 NF x 1 lg.
30	1403050-3	1	Bearing bracket
31	01554-6	4	Split lock washer, 1/4 med.
32	01520-36	4	Hex. nut, 1/4-28 NF
33	01500-74	1	Hex. hd. cap screw, 3/8-24 NF x 2 lg.
33	1403051-3	1	Counter shaft
34	0203016	1	Spring, clutch return (not shown)
35	1202046	1	Spring, pedal return (not shown)



APPLICABLE TO:  
S/N 474 -ON

FIGURE 4-9A  
(MODEL 1404)

FUEL SYSTEM  
(Model 1404)

See Figure 4-9B

<u>Item No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
1	1404033	2	STRAP, FUEL TANK HOLD-DOWN
2	1404026	2	HOOK BOLT, FUEL TANK HOLD-DOWN
3	1404021-1	1	FUEL TANK
*	1404021-3	1	FUEL TANK
4	1404025	1	BACK BOARD, FUEL TANK
5	1404031	1	STAND PIPE, FUEL TANK
6	1404053	1	FUEL LINE ASSY (Includes next 2 items)
	0203011	1	STANDARD NUT, INVERTED FLARE
		1	TUBING, COPPER, 1/4 O.D. x .020 WALL x 66 LG.
7	1404043	1	CAP, FUEL TANK
8	01525-7	2	ELASTIC STOP NUT, 5/16-18 NG
9	01551-5	2	FLAT WASHER, 5/16 large
10	0101435	2	CLAMP, LINE SUPPORTING
11	1404068	1	THROTTLE CABLE ASSY
12	1404018	1	CHOKE CONTROL CABLE
13	0101344	1	CLAMP, LINE SUPPORTING
14	01554-6	2	SPLIT LOCK WASHER, 1/4 med.
15	1404063	1	BRACKET, ACCELERATOR CABLE
16	0101337	5	SEMS NUT, #10-32 NF
17	1404058	1	HOSE, 2-1/4 I.D. x 4 lg. (used without cab)
18	0104017	1	SPRING, THROTTLE RETURN
19	01700-13	1	GROMMET
20	01501-8	2	HEX.HD.CAP SCREW, 1/4-20 NC x 1 lg.
21	01520-7	2	HEX.NUT, 5/16-18 NC
22	01554-7	2	SPLIT LOCK WASHER, 5/16 med.
23	01501-38	2	HEX.HD.CAP SCREW, 5/16-18 NC x 1 lg.
24	0101402	3	RD.HD.MACHINE SCREW, #10-32 NF x 3/4 lg.
	1304021	1	GAS PEDAL ASSY (Includes next 6 items)
25	01542-100	1	ROLL PIN, 1/8 dia. x 3/4 lg.
26	1304016	1	PEDAL ARM
27	1304017	1	FLANGED SLEEVE
28	1304027	1	ACCELERATOR PEDAL, modified
29	01500-66	1	HEX.HD.CAP SCREW, 3/8-24 NF x 3/4 lg.
30	01521-38	1	JAM NUT, 3/8-24 NF
31	01520-6	2	HEX,NUT, 1/4-20 NC
32	1404057	1	HOSE, 2-1/4 I.D. x 24 lg. (used with cab)
	1404076	1	HOSE, 2-1/4 I.D. x 44 lg. (used with full cab)
33	1404056	1	INLET FITTING
34	0101384	2	CLAMP, HOSE

FUEL SYSTEM (Cont'd)  
(Model 1404)

See Figure 4-9B

<u>Item No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
35	1404064	1	TAB, ACCELERATOR CABLE
*36	1404062	1	SENDING UNIT, FUEL LEVEL INDICATOR
*37	0104032	2	GASKET, SENDING UNIT
*38	0104060	1	CAP, SENDING UNIT PROTECTIVE
*39	0101229	5	RD.HD.MACHINE SCREW, #10-32 NF x 1/2 lg.
*40	0101508	5	FIBRE WASHER, 3/16 I.D.
41			CARBURETOR (see Fig. 2-6B for parts call-out)

\* These items are optional equipment and are installed only per contract specifications.



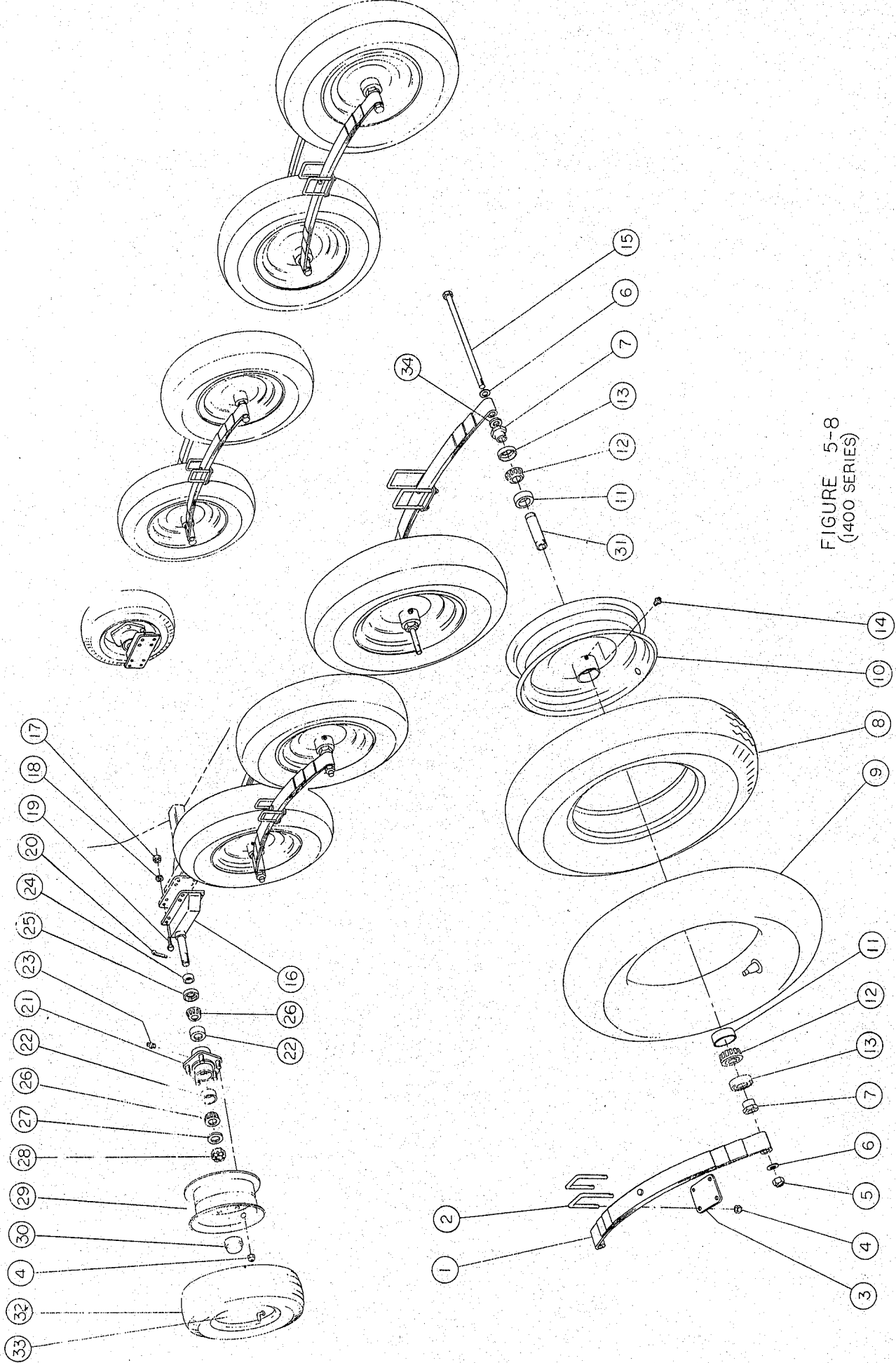


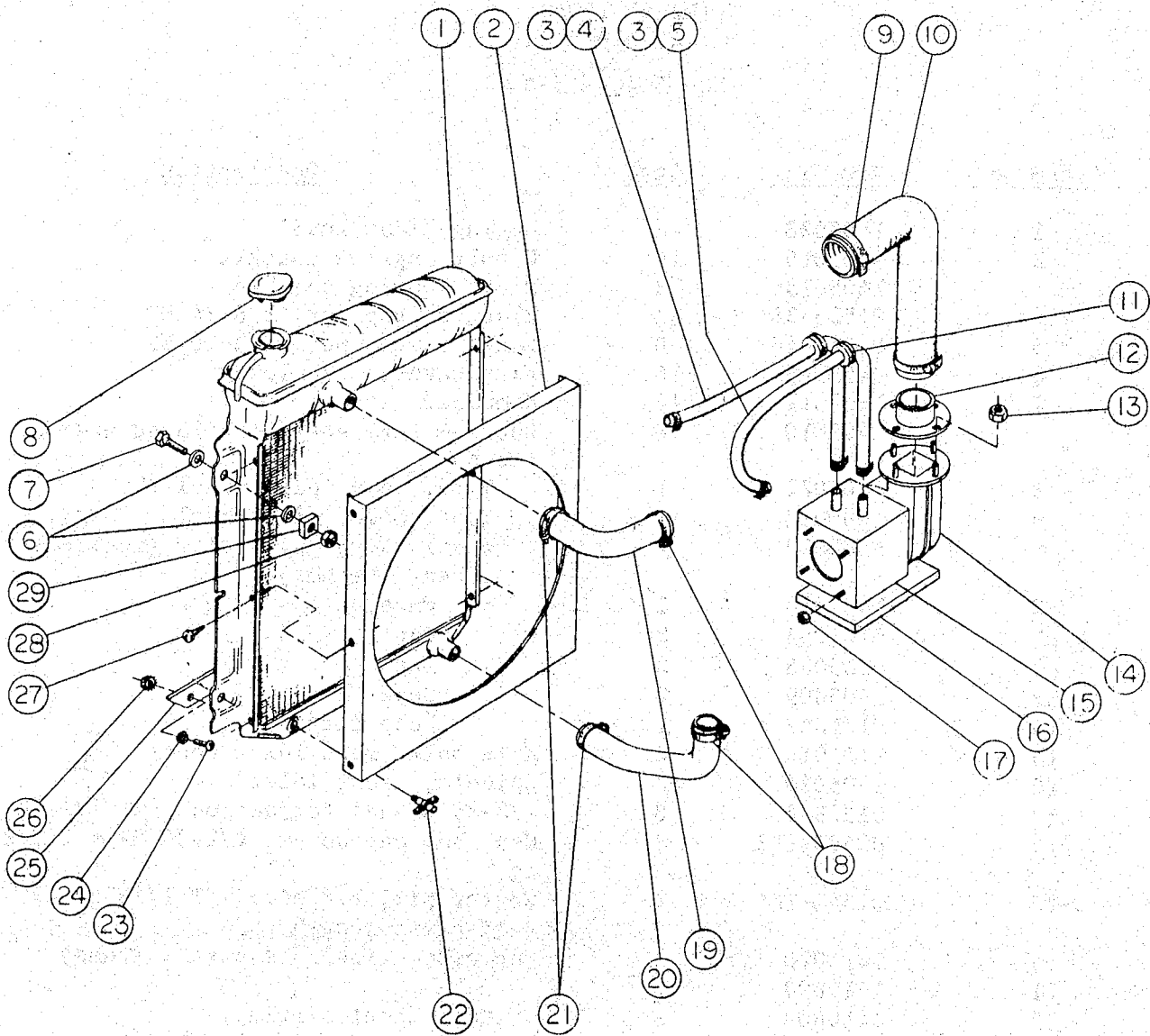
FIGURE 5-8  
(1400 SERIES)

SUSPENSION SYSTEM  
(Model 1404)  
1405029-5

See Figure 5-8

<u>Item No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
1	1405028	8	Spring (four leaf)
2	1405015	16	U bolt, spring shackle
3	1405013	8	Plate, spring shackle
4	01525-38	42	Elastic stop nut, 3/8-24 NF
5	01525-40	8	Elastic stop nut, 1/2-20 NF
6	01551-8	16	Flat washer, 1/2 large
7	1405012	16	Shoulder nut
	1405010	8	Wheel & tire assy. (includes next 3 items)
8	1405022	1	Tire, main idler wheel
9	1405018	1	Tube, main idler wheel
	1405019	1	Wheel assy, main idler (includes next 5 items)
10	1405020	1	Wheel
11	0105055	2	Cup
12	0105038	2	Cone
13	1405009	2	Seal
14	0101667	1	Lube fitting
15	1405014	8	Axle bolt, main idler wheel $9\frac{1}{2}$
16	1405026	2	Spindle, front idler
17	01528-28	8	1/2-20 NF uni torque lock nut 1/2-20 NF
19	01500-132	8	Hex. hd. cap screw, 1/2-20 NF x 1 1/2 lg.
20	01541-105	2	Cotter pin, 1/8 dia. x 1 1/2 lg. (effective length)
	1419020	2	Hub assy. (includes next 2 items)
21	1419008	1	Hub
22	1419009	2	Cup, wheel bearing
23	0101281	2	Grease fitting, 1/4-28 NF
24	1419006	2	Spacer
25	1419007	2	Grease seal
26	1419010	4	Cone, wheel bearing
27	01550-16	2	Flat washer, 1" small
28	0101360	2	Slotted hex. nut, 1-14 NF
29	1419011	2	Wheel, front idler
30	1419012	2	Grease cap
31	1405011	8	Spindle, main idler wheel
32	1419013*	2	Tire, front idler
33	1419014*	2	Tube, front idler
34	1405024	8	Spacer
35	1405044	1	Washer support front idler (not shown)

\* Vehicles equipped with Solid Tire Front Idler, order Part No. 1405035 Tire.



APPLICABLE TO:  
S/N 459-ON

FIGURE 6-7A  
(MODEL 1404)



COOLANT SYSTEM  
(Model 1404)

See Figure 6-7A

<u>Item No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
1	1406003	1	RADIATOR
2	1406004	1	FAN SHROUD
3	0101329	4	HOSE CLAMP
4	1306007	1	HOSE, 5/8 I.D. x 40 lg.
5	0606012	1	HOSE, 5/8 I.D. x 26 1/2 lg.
6	01551-5	8	FLAT WASHER, 5/16 large
7	01500-38	4	HEX.HD.CAP SCREW, 5/16-24 NF x 1 lg.
8	0206019	1	RADIATOR CAP
9	0702004	2	HOSE CLAMP
10	1406017	1	HOSE, FLEXIBLE TUBING
11	01700-28	2	GROMMET
12	1406014	1	ADAPTER, BLOWER
13	01525-7	4	ELASTIC STOP NUT, 5/16-18 NC
14	0819001	1	BLOWER, HEATER/DEFROSTER
15	1406010	1	CORE, HEATER/DEFROSTER
16	1406016	1	SPACER
17	01525-6	4	ELASTIC STOP NUT, 1/4-20 NC
18	1406023	2	HOSE CLAMP
19	1406005	1	RADIATOR HOSE, UPPER
20	1406006	1	RADIATOR HOSE, LOWER
21	1406022	2	HOSE CLAMP
22	1206018	1	DRAIN PLUG ASSY, RADIATOR (Includes next 3 items)
	0101862	1	NIPPLE
	0101863	1	COUPLING
	1306008	1	DRAIN COCK
23	0101402	3	RD.HD.MACHINE SCREW, #10-32 NF x 3/4 lg.
24	01551-3	3	FLAT WASHER, #10 large
25	1406025	1	ANTI-RECIRCULATION BAFFLE
26	0101337	3	SELF LOCKING NUT, #10-32 NF
27	1406008	4	SHEET METAL SCREW, #8 x 3/8 lg.
28	01525-37	4	ELASTIC STOP NUT, 5/16-24 NF
29	1406001	4	SPACER

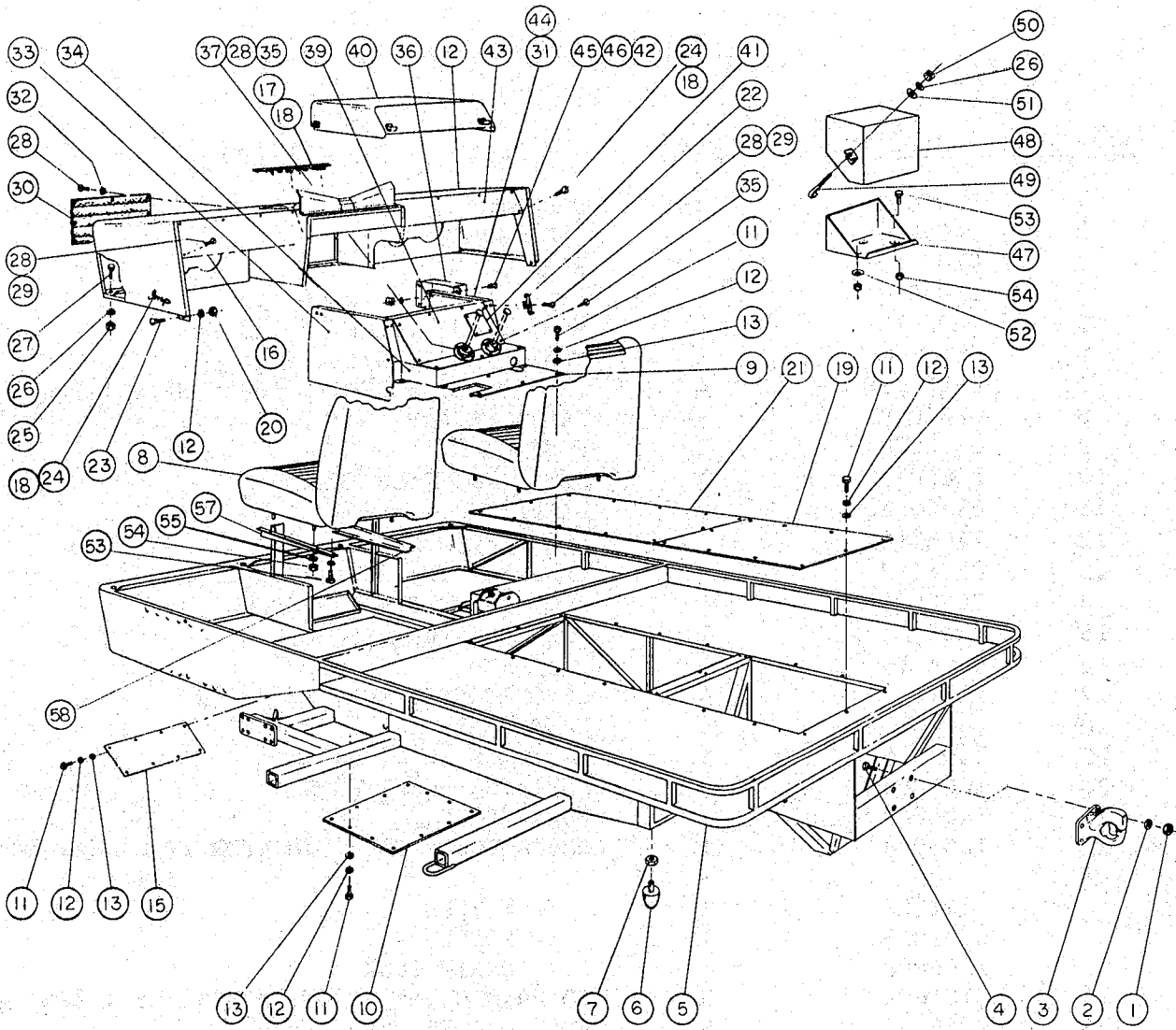


FIGURE 7-27  
 (MODEL 1404)  
 8-2-74

## CHASSIS ASSEMBLY

(Model 1404)

1407216-1

See Figure 7-27

<u>Item No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
1	01520-40	4	Hex. nut, 1/2-20 NF
2	01554-10	4	Split lock washer, 1/2 med.
3	0207027	1	Pintle hook
4	01500-130	4	Hex. hd. cap screw, 1/2-20 NF x 1 1/4 lg.
5	1407215-1	1	Chassis assy.
6	0108120	2	Bumper rubber
7	01525-38	2	Elastic stop nut, 3/8-24 NF
8	0508027	2	Bostrom seat
9	1407128-3	1	Cover
10	1407053	1	Access plate
11	01501-6	50	Hex. hd. cap screw, 1/4-20 NC x 3/4 lg.
12	01554-6	52	Sput lock washer, 1/4 med.
13	01551-4	50	Flat washer, 1/4 large
14	1407105-3	1	Cowl
15	1407104	1	Cover plate, front
16	1415042	1	Instrument panel assy.
17	1201010	1	Nameplate, "THIOKOL"
18	0101537	8	Pop rivet, 1/8 dia.
19	1407025	1	Cover plate, rear
20	01520-6	2	Hex. nut, 1/4-20 NC
21	1407097	1	Cover plate, front
22	0108048	4	Clamp, cover hold down
23	0101959	2	Carriage bolt, 1/4-28 NF x 1 1/4 lg.
24	1401002	2	Nameplate "IMP"
25	01520-38	4	Hex. nut, 3/8-24 NF
26	01554-8	6	Split lock washer, 3/8 med.
27	01500-68	4	Hex. hd. cap screw, 3/8-24 NF x 1 lg.
28	0101337	20	Sems nut, #10-32 NF
29	0101402	28	Machine screw rd. hd., # 10-32 NF x 3/4 lg.
30	1407126	1	Grill front
31	1407112-3	1	Engine cover, R.H.
32	01550-6	8	Flat washer, #10 small
33	1407113	1	Engine cover, L.H.
34	1407119	1	Hood, rear cover
35	0101316	10	Pan hd. sheet metal screw #10 x 3/4 lg.
36	1407198	1	Cover, alternator
37	0222002	2	Boot
38	0207016	2	Boot ring
39	1407127	1	Engine cover, rear
40	1407107	1	Engine cover, top
41	1407153	1	Plate, shifting pattern
42	0101780	6	Receptacle
43	1407103	1	Dash panel, R.H.
44	1407112-1	REF	Engine cover, R.H. (used with generator installation)

CHASSIS ASSEMBLY  
 (Model 1404)  
 1407216-1

See Figure 7-27

<u>Item No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
45	0101960	6	Stud
46	0101781	6	Retainer
47	1215059	1	Battery box base
48	1215060	1	Battery box cover
49	0101559	2	"J" bolt, 5/16-18 NC x 5 7/8 lg.
50	01520-7	2	Hex. nut, 5/16-18 NC
51	01551-5	2	Flat washer, 5/16 med.
52	2107059	1	Fender washer
53	01500-36	11	Hex. hd. cap screw, 5/16-24 NF x 3/4 lg.
54	01524-22	3	Uni-torque lock nut, 5/16-24 NF
55	01552-7	16	Split lock washer, 5/16
56	01520-37	8	Hex. nut, 5/16-24 NF
57	1407236-1	2	Seat support
58	1407236-3	2	Seat support

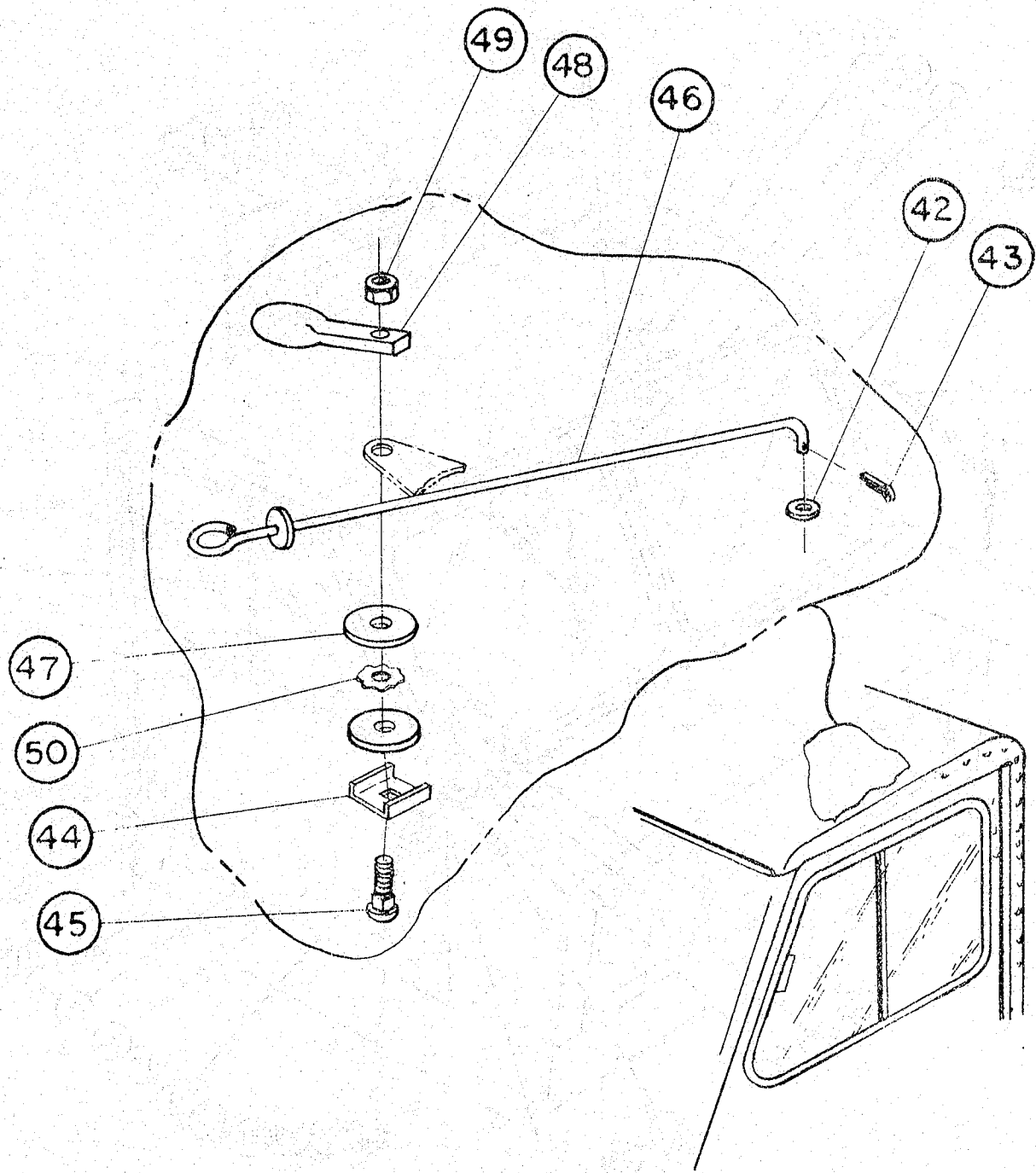


FIGURE 8-9B

(MODEL 1404)

8-2-74

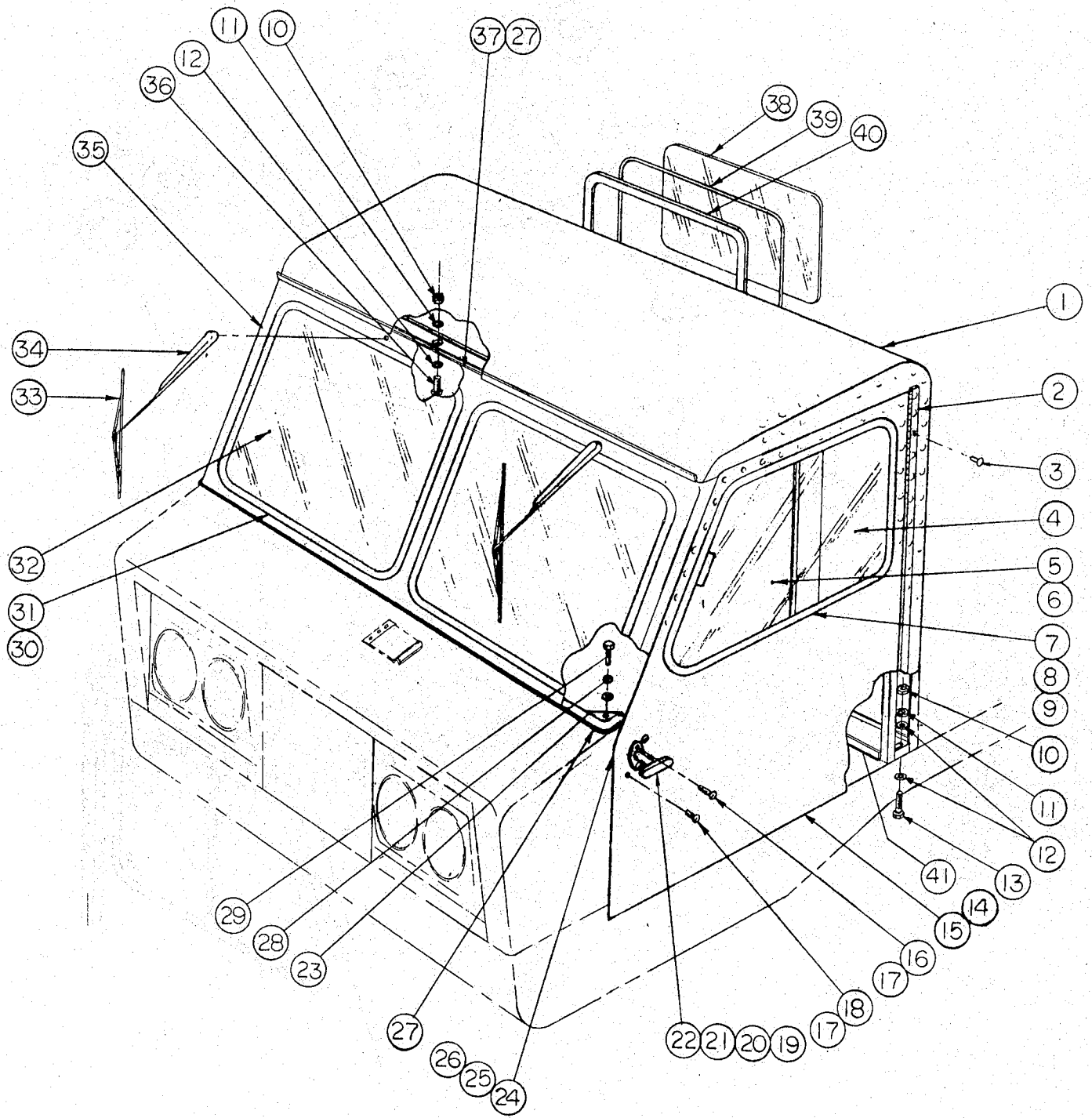


FIGURE 8-9  
(MODEL 1404)

CAB - ADJUSTABLE  
(Model 1404)

See Figure 8-9

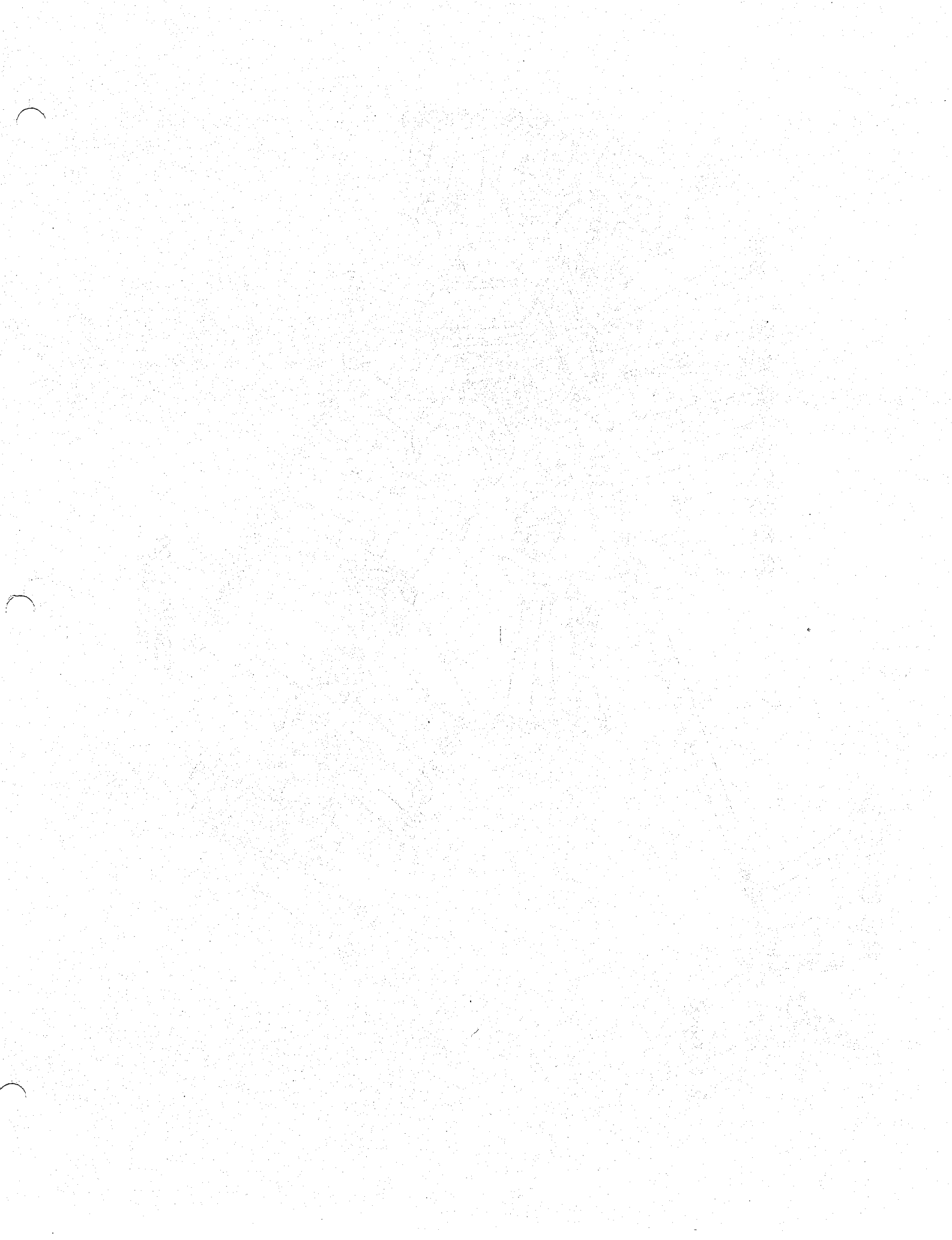
<u>Item No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
1	1408070	1	CAB FRAME & SKIN ASSY
2		2	DOOR SPACER, 3/4 x 3/16 x 59 1/2 lg. al.
3	0101410	A/R	RIVET, ALUMINUM, 3/16 dia. x 7/16 lg.
4	1408060	2	GLASS, STATIONARY DOOR WINDOW
5	1408044	1	SLIDING GLASS WINDOW, L.H.
6	1408045	1	SLIDING GLASS WINDOW, R.H.
7		2	WEATHER STRIP, 76 lg., Sommer & Maca Co. #6421
8		2	LOCKING STRIP, 76 lg., Sommer & Maca Co. #B-127
9		2	CHANNEL, RIGID, 15 1/4 lg., Sommer & Maca Co. #3-K1
10	01520-38	8	HEX.NUT, 3/8-24 NF
11	01554-8	8	SPLIT LOCK WASHER, 3/8 med.
12	01550-9	12	FLAT WASHER, 3/8 small
13	01500-68	4	HEX.HD.CAP SCREW, 3/8-24 NF x 1 lg.
14	1408042	1	DOOR ASSY, L.H.
15	1408043	1	DOOR ASSY, R.H.
16	0101229	4	RD.HD.MACHINE SCREW, #10-32 NF x 1/2 lg.
17	01525-35	6	ELASTIC STOP NUT, #10-32 NF
18	0101298	8	RD.HD.MACHINE SCREW, #10-32 NF x 1 1/4 lg.
19	0108039	2	HANDLE, INSIDE
20	0108040	1	DOOR LOCK, L.H.
21	0108067	1	DOOR LOCK, R.H.
22	0119065	2	TEE HANDLE, PLAIN
23	01551-4	4	FLAT WASHER, 1/4 large
24	0101337	4	SELF LOCKING NUT, #10-32 NF
25	0101804	4	FLAT HD. MACHINE SCREW, #10-32 NF x 3/4 lg.
26	1408071	2	STRIKER, DOOR LATCH
27	SK-E-310	A/R	WEATHER STRIP
28	01554-6	4	SPLIT LOCK WASHER, 1/4 med.
29	01501-8	4	HEX.HD.CAP SCREW, 1/4-20 NC x 1 lg.
30		2	LOCKING STRIP, 95 lg., Sommer & Maca Co. #3197-R
31		2	WEATHER STRIP, 95 lb., Sommer & Maco Co. #3195-R

CAB - ADJUSTABLE (Cont'd)  
(Model 1404)

See Figure 8-9

<u>Item No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
32	1408059	2	Glass, Windshield
33	0108064	2	Blade, Windshield Wiper
34	1208019	2	Arm, Windshield Wiper
35	1408062	1	Windshield Assy
36	01500-66	4	Hex. Hd. Cap Screw, 3/8-24 NF x 3/4 lg.
37		A/R	Weather Strip, 1/16 x 1 1/2, C.M. Hoof Co. #T25020
38	0608067	2	Rear Glass, Window
39		2	Locking Strip, 66 1/2 lg., Sommer & Maca Co. #3197-R
40		2	Weather Strip, 66 1/2 lg., Sommer & Maca Co. #3195-R
41		A/R	Weather Strip, 3/16 x 3/4





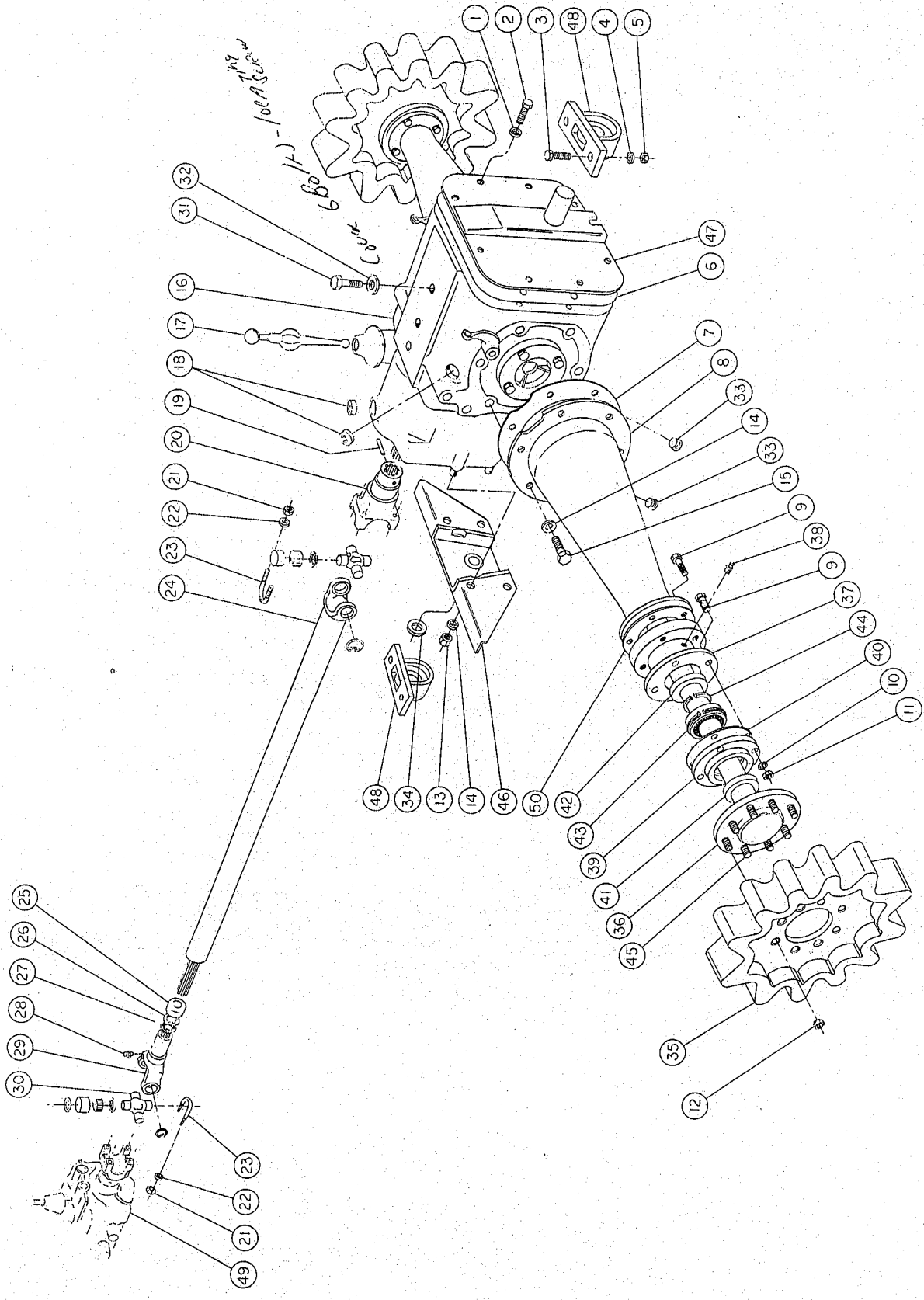


FIGURE 9-29  
 (MODEL 1404)

## DRIVE LINE ASSEMBLY

1409106-7

Model 1404

See Figure 9-29

<u>Item No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
1	01554-9	9	Split lock washer, 7/16 med.
2	01501-98	9	Hex. Hd. Capscrew, 7/16-14 NC x 1" lg.
3	01500-134	4	Hex. Hd. Capscrew, 1/2-20 NF x 2" lg.
4	01554-10	4	Split lock Washer, 1/2 med.
5	01520-40	4	Hex. nut, 1/2-20 NF
6	0209032	1	Gasket, Rear Cover Plate
7	0209021	2	Gasket, Drive Axle Housing
8	1409046	2	Drive Axle Housing
9	01500-78	12	Hex. Hd. Capscrew, 3/8-24 NF x 1" lg.
10	01554-8	8	Split Lock Washer, 3/8 med.
11	01520-38	8	Hex. Nut, 3/8-24 NF
12	0205009	16	Lug Nut, 1/2-20 NF, 60 degree angle
13	01520-42	4	Hex. Nut, 5/8-18 NF
14	01554-12	4	Split Lock Washer, 5/8 med.
15	01501-192	12	Hex. Hd. Capscrew, 5/8-11 NC x 1 1/2" lg.
16	1309021	1	Drive unit assy (for part breakdown, see Clark Equipment Co.'s parts list in back of manual)
17	1309013	1	Shift selector lever, modified
18	0101393	2	Socket hd. pipe plug, 1-11 1/2 NPT
19	01542-200	1	Roll pin, 7/32 dia. x 1 3/4" lg.
20	0209004	1	End yoke, Drive Unit
21	01520-37	8	Hex. Nut, 5/16-24 NF
22	01554-7	8	Split Lock Washer, 5/16 med.
23	0118006	4	"U" Bolt
24	1409101	1	Drive Shaft
25	0118011	1	Dust Cap
26	0118014	1	Steel Washer
27	0118012	1	Cork Washer
28	0101226	1	Grease Fitting, 1/8 NPT, straight
29	0118013	1	Sleeve Yoke
30	0118005	2	Bearing & Journal Kit
31	01501-158	1	Hex. Hd. Capscrew, 9/16-12 NC x 1" lg.
32	01554-11	1	Split Lock Washer, 9/16 med.
33	0101971	2	Magnetic Pipe Plug, 1/2-14 NPT
34	1409108	1	Thrust Washer
35*	1409118	2	Sprocket, 12 tooth
36	1409119	2	Drive Axle
37	1409120	2	Spacer Bushing (includes the next item)
38	0101281	1	Grease Fitting

\* Drive Sprocket used on Standard Tread Width Vehicle is Part Number 1409122.

## Drive Line Assembly

9-29 (2 of 2)

1409106-7

Model 1404

See Figure 9-29

<u>Item</u> <u>No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
39	1209067	2	Retainer plate
40	1209069	2	Gasket
41	01710-2	2	Oil seal
42	01710-1	2	Oil seal
43	0101739	2	Bearing
44	0122022	2	Retainer ring
45	1205050	16	Wheel bolt
46	1409017-3	1	Front mount, drive unit
47	1409018-3	1	Rear mount, drive unit
48	01730-1	2	Pillow block
49			Transmission assy (see fig. 25-13 for parts call out)
50	1409115	2	Gasket

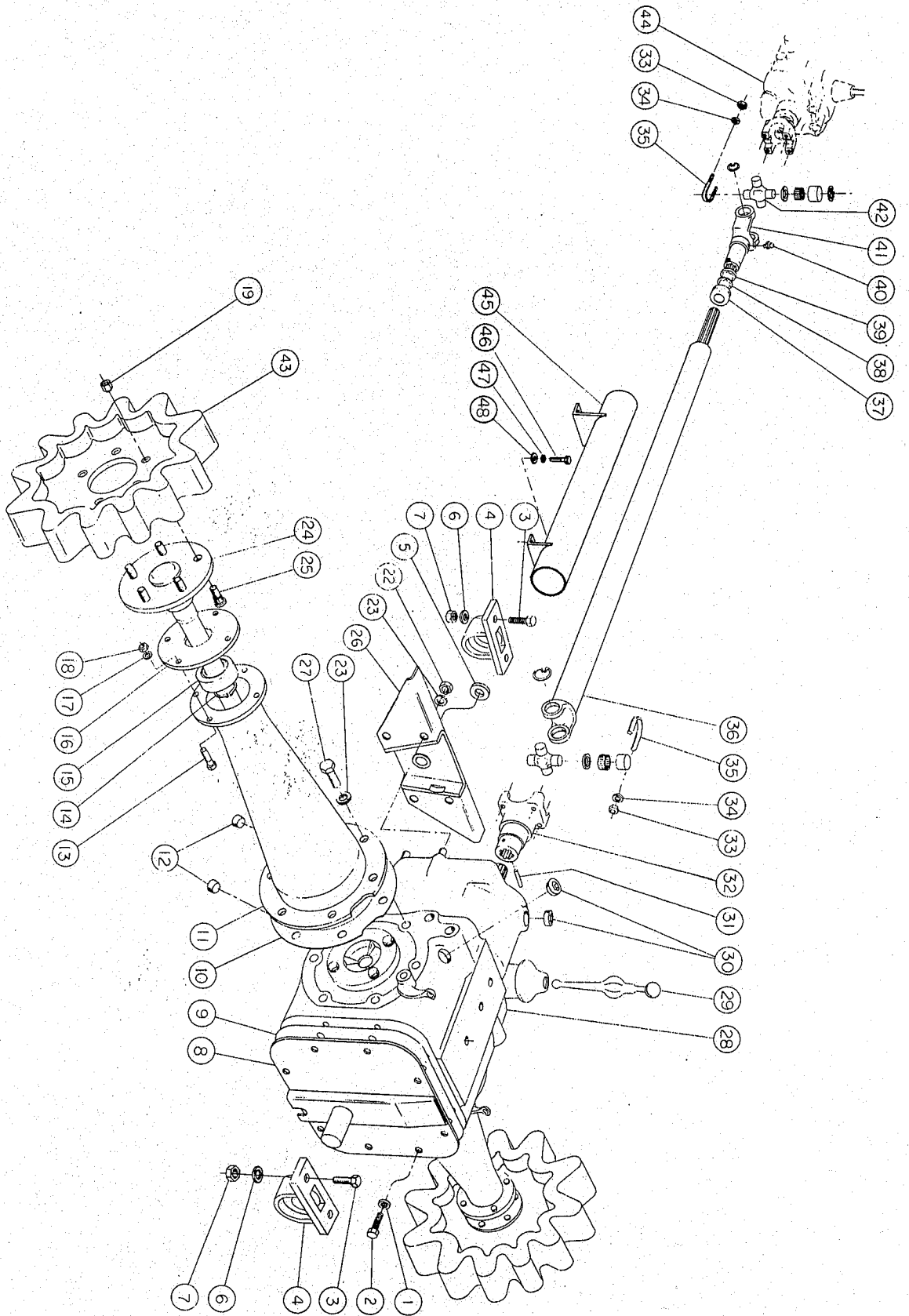
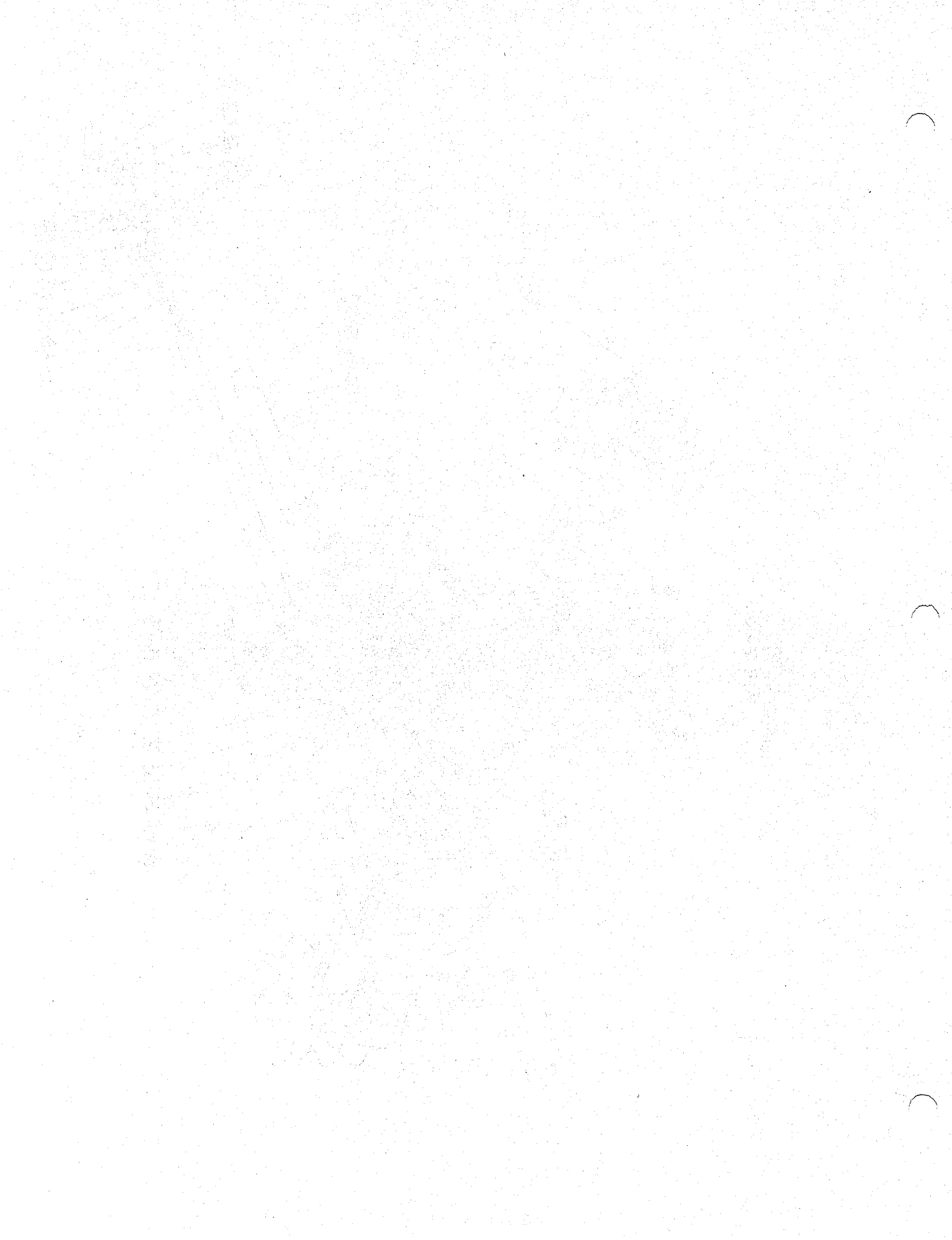


FIGURE 9-33  
 (MODEL 1404) (STANDARD)  
 8-2-74



DRIVE SYSTEM, STANDARD TRACK WIDTH  
(Model 1404)  
1409106-9

See Figure 9-33

<u>Item No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
1	01554-9	9	Split lock washer, 7/16 med.
2	01501-98	9	Hex. hd. cap screw, 7/16-14 NC x 1 lg.
3	01500-134	4	Hex. hd. cap screw, 1/2-20 NF x 2 lg.
4	01730-1	2	Pillow block
5	1409108	1	Thrust washer
6	01554-10	4	Split lock washer, 1/2 med.
7	01520-40	4	Hex. nut, 1/2-20 NF
8	1409018	1	Rear mount, drive unit swivel
9	0209032	1	Gasket, rear cover plate
10	0209021	2	Gasket, drive axle housing
11	1409046	2	Drive axle housing
12	0101971	2	Plug, 1/2 socket hd.
13	01500-68	8	Hex. hd. cap screw, 3/8-24 NF x 1 lg.
14	0209016	2	Ring, bearing retainer
15	0105041	2	Axle bearing
16	0209009	2	Retainer plate
17	01554-8	8	Split lock washer, 3/8 med.
18	01520-38	8	Hex. nut, 3/8-24 NF
19	0205009	10	Lug nut, 1/2-20 NF, 60° angle
20	01501-158	1	Hex. hd. cap screw, 9/16-12 NC x 1 lg.
21	01554-11	1	Split lock washer, 9/16 med.
22	01540-42	4	Hex. nut, 5/8-18 NF
23	01554-12	16	Split lock washer, 5/8 med.
24	1409095	2	Drive axle
25	1205050	10	Hub bolt, 1/2-20 NF x 1 5/8 lg.
26	1409017-3	1	Front mount, drive unit swivel
27	01501-192	12	Hex. hd. cap screw, 5/8-11 NC x 1 1/2 lg.
28	1309021	1	Drive unit (for parts breakdown check Clar Equipment Co. Parts List in this manual.)
29	1309013	1	Shift selector lever, modified
30	01618-36	2	Plug, 1" socket hd.
31	01542-200	1	Roll pin, 7/32 dia. x 1 3/4 lg.
32	0209004	1	End yoke, drive unit
33	01520-37	8	Hex. nut, 5/16-24 NF
34	01554-7	8	Split lock washer, 5/16 med.
35	0118006	4	U bolt
36	1409101	1	Drive shaft
37	0118011	1	Dust cap
38	0118014	1	Steel washer
39	0118012	1	Cork washer
40	0101226	1	Grease fitting, 1/8 NPT, straight
41	0118013	1	Sleeve yoke
42	0118005	2	Kit, bearing & journal
43	1409122	2	Sprocket

DRIVE SYSTEM (Cont'd)  
 (Model 1404)  
 1409106-9

See Figure 9-33

<u>Item No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
44	1425010	1	Transmission assembly
45	1409102	1	Housing, drive shaft
46	01501-6	4	Hex. hd. cap screw, 1/4-20 NC x 3/4 lg.
47	01554-6	4	Split lock washer, 1/4 med.
48	01551-4	4	Flat washer, 1/4 large





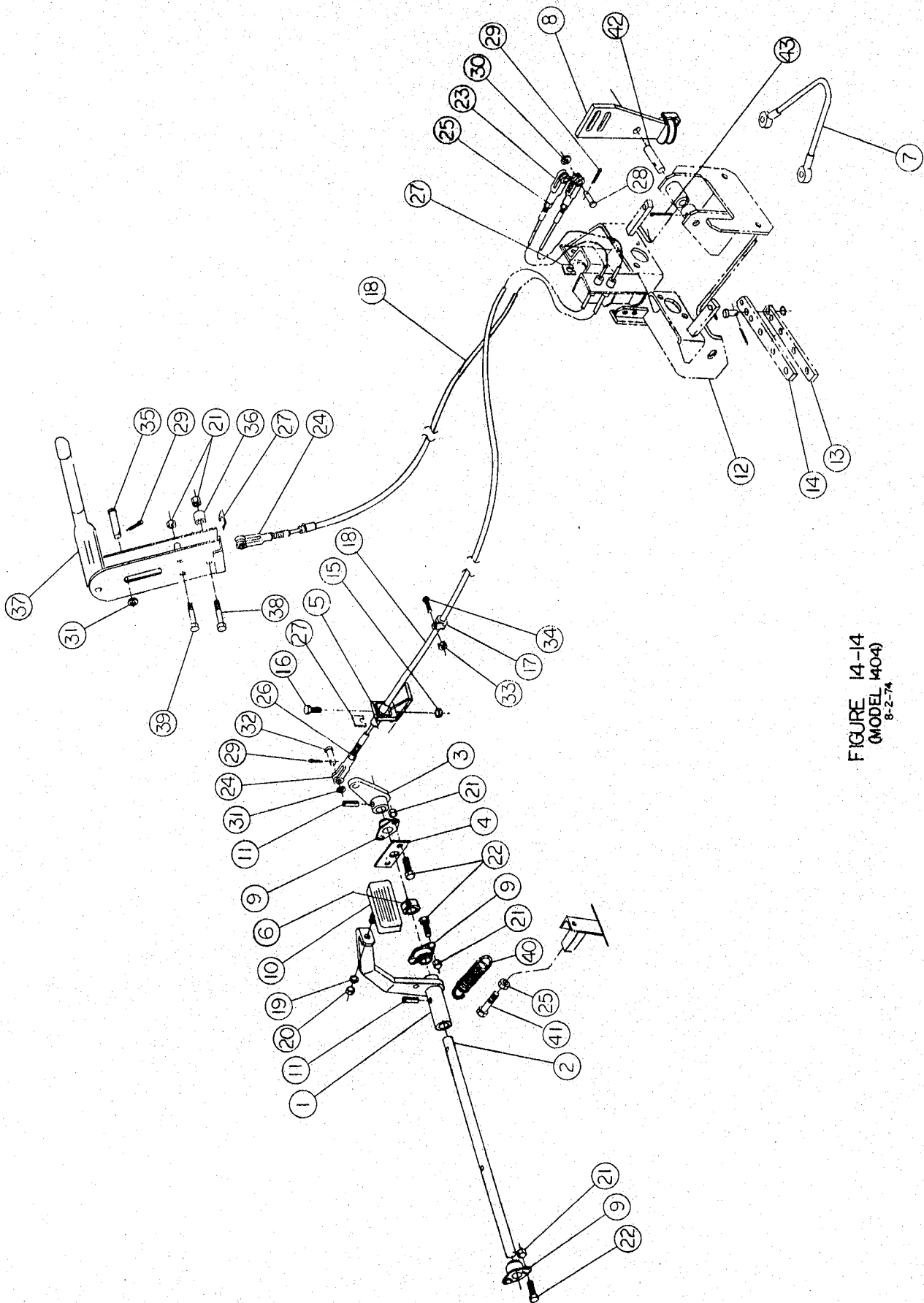


FIGURE 14-14  
 (MODEL 1404)  
 8-2-74

BRAKE ASSEMBLY  
(Model 1404)  
1414025

See Figure 14-14  
(Optional)

<u>Item No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
1	1414013	1	Brake pedal
2	1414014	1	Brake pivot shaft
3	1414015	1	Actuator arm
4	1414017	1	Bearing spacer
5	1414016	1	Mounting bracket
6	1403049	1	Set screw, collar
7	1414022	1	Equalizer cable
8	1414018	1	Swing arm actuator
9	2114032	3	Bearing, 3/4 bore
10	0114017	1	Foot pedal
11	01542-224	2	Rollpin, 1/4 x 1 lg.
12	1414020		Actuator bracket (See Figure 22-27)
13	1422020		Lever, short (See Figure 22-27)
14	1422026		Lever, long (See Figure 22-27)
15	01525-36	2	Elastic stop nut, 1/4-28 NF
16	01500-6	2	Hex. hd. cap screw, 1/4-28 NF x 3/4 lg.
17	01705-4	A/R	Line support clamp, 5/16
18	0614006-1	2	Brake cable
19	01554-8	1	Split lock washer, 3/8 med.
20	01520-38	1	Hex. nut, 3/8-24 NF
21	01525-38	9	Elastic stop nut, 3/8-24 NF
22	01500-66	6	Hex. hd. cap screw, 3/8-24 NF x 3/4 lg.
23	0101290	2	Brake yoke, 3/8-24 NF
24	0101291	2	Brake yoke, 5/16-24 NF
25	01521-38	3	Jam nut, 3/8-24 NF
26	01521-37	2	Jam nut, 5/16-24 NF
27	0114016-1	4	Retainer clip, 1/2
28	01540-203	2	Clevis pin, 3/8 x .969 grip
29	01541-82	4	Cotter pin, 3/32 x 3/4 lg.
30	01550-9	2	Flat washer, 3/8 small
31	01550-8	2	Flat washer, 5/16 small
32	01540-151	1	Clevis pin, 5/16 x .844 grip
33	0101337	A/R	Sems nut, #10-32 NF
34	0101229	A/R	Rd. hd. machine screw, #10-32 NF x 1/2 lg.
35	01540-157	1	Clevis pin, 5/16 x 1.219 grip
36	1414010	1	Spacer
37	1214006-1	1	Hand brake
38	01500-77	1	Hex. hd. cap screw, 3/8-24 NF x 2 3/4 lg.
39	01500-73	2	Hex. hd. cap screw, 3/8-24 NF x 1 3/4 lg.
40	0203016	1	Spring
41	01500-74	1	Hex. hd. cap screw, 3/8-24 NF x 2 lg.
42	1414023	1	Swing arm shaft
43	01541-146	1	Cotter pin 3/16

WIRING COLOR CODE HYPOLON PRIMARY WIRE		
NO.	COLOR	GAUGE
1	BLACK	14
2	BROWN	14
3	BLUE	14
4	GREEN	14
5	RED	14
6	ORANGE	14
7	YELLOW	14
8	WHITE	14
9	BLACK	10

MARKED WIRES	
WHITE DOT	○
BLACK DOT	●

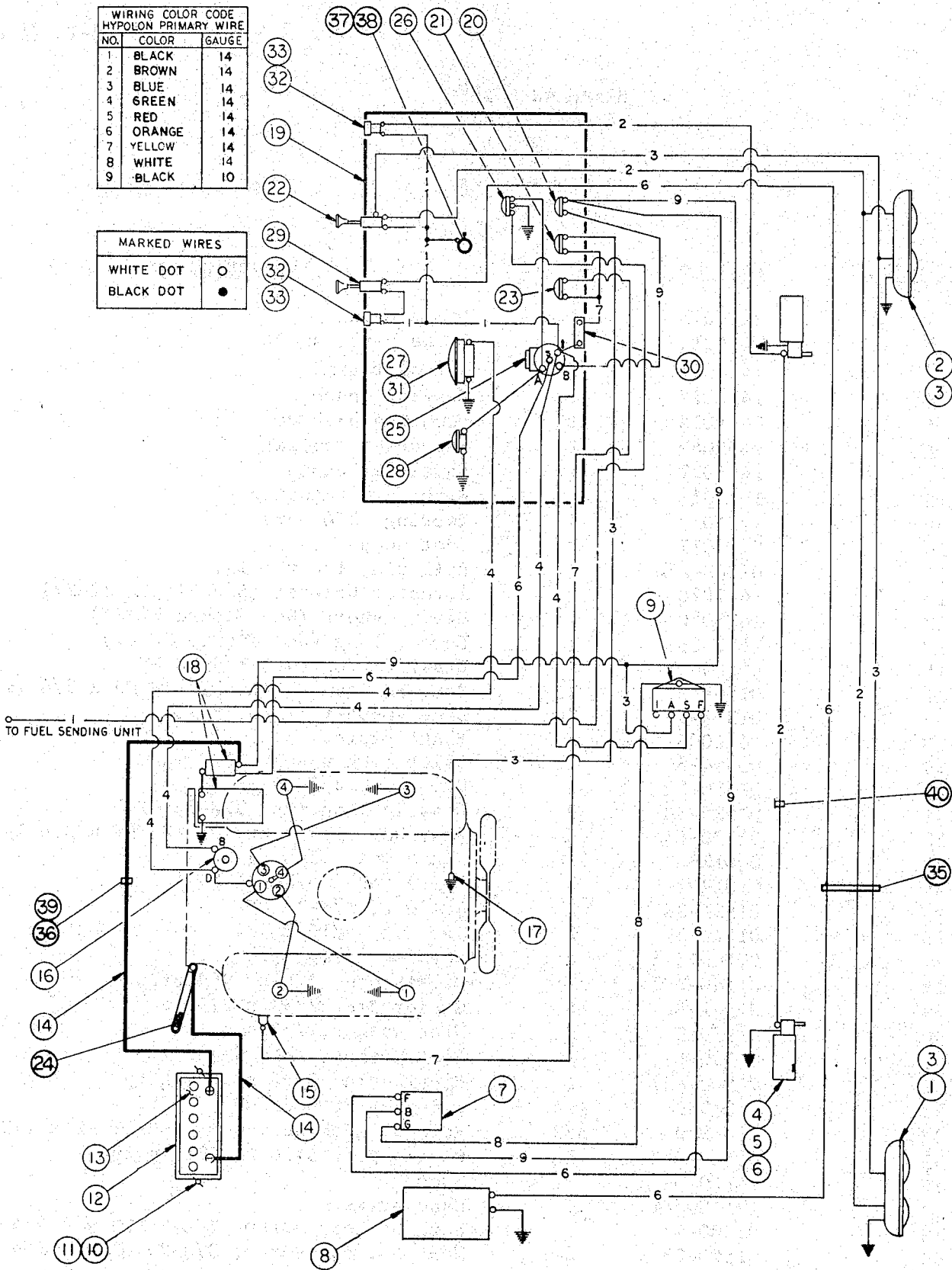


FIGURE 15-28  
(MODEL 1404)

8-2-74

## CAUTION

### ALTERNATOR INSTALLATION

**DO NOT** connect the battery cables until all wiring harness connections have been made and properly tightened.

If accidentally grounded, the lead to the battery terminal of the alternator will burn the wiring harness.

**DO NOT** pry against the steel center-section (stator), the rear housing, or the through bolts when adjusting drive belt tension. Always place the pry bar against the front housing.

Prying against the wrong parts will bend the through bolts and cause alternator assembly misalignment.

**DO NOT** attempt to polarize the alternator. It can damage the voltage regulator and is not necessary.

**DO NOT** connect battery terminals in reverse polarity. This will burn out the alternator diodes. Connect positive (+) to positive and negative (—) to negative.

**DO NOT** disconnect alternator wires before disconnecting battery cables. Accidental grounding will burn the wiring harness.

**DO NOT** connect a battery charger to the battery before disconnecting the battery cables. When connecting the battery charger, connect positive (+) to positive and negative (—) to negative.

**DO NOT** use an electric welder on machine unless both battery cables and alternator wires are disconnected.

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1. The first part of the report deals with the general situation of the country and the progress of the work during the year. It is followed by a detailed account of the work done in each of the various departments.

2. The second part of the report deals with the results of the work done during the year. It is followed by a detailed account of the work done in each of the various departments.

3. The third part of the report deals with the results of the work done during the year. It is followed by a detailed account of the work done in each of the various departments.

4. The fourth part of the report deals with the results of the work done during the year. It is followed by a detailed account of the work done in each of the various departments.

5. The fifth part of the report deals with the results of the work done during the year. It is followed by a detailed account of the work done in each of the various departments.

6. The sixth part of the report deals with the results of the work done during the year. It is followed by a detailed account of the work done in each of the various departments.

7. The seventh part of the report deals with the results of the work done during the year. It is followed by a detailed account of the work done in each of the various departments.

8. The eighth part of the report deals with the results of the work done during the year. It is followed by a detailed account of the work done in each of the various departments.

9. The ninth part of the report deals with the results of the work done during the year. It is followed by a detailed account of the work done in each of the various departments.

10. The tenth part of the report deals with the results of the work done during the year. It is followed by a detailed account of the work done in each of the various departments.

## ELECTRICAL SYSTEM

(Model 1404)

1415079-3

See Figure 15-28

<u>Item No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
1	1215023	1	Twin headlight assy, R.H. side
2	1215021	1	Twin headlight assy, L.H. side
3	1215022	2	Bezel, twin headlight
4	1415031	2	Wiper motor
5	1415052	2	Spacer, wiper motor
6	1415053	2	Spacer, wiper motor
7		1	Alternator (Ford #C6FF-10300-6)
*8	0819001	1	Blower, heater/defroster
9	1215026	1	Voltage regulator
10	01532-4	2	Wing nut, 1/4-20 NC
11	1415020	2	Bolt, battery holddown
12	1415018	1	Lid, battery box
13	1415067	1	Battery, 12 volt 81 amp.
14	1415059-5	2	Battery cable
15	0202011	1	Oil pressure sending unit
16	1402117	1	Coil assy (Ford #CONF 12029-A)
17	0602006	1	Temperature sending unit
18	1402116	1	Starting motor (Ford #436765)
19	1415047-1	1	Instrument panel
20	0215011	1	Ammeter gauge
21	0215013	1	Temperature gauge
22	1215088	1	Light switch
23	0215012	1	Oil pressure gauge
24	0115035	1	Ground strap
25	1415058	1	Ignition switch
26	0104035	1	Fuel gauge
27	1415057	1	Tachometer sending unit
28	0119052	1	Hourmeter gauge
*29	2115063	1	Heater switch
30	0215008	1	Volt regulator
31	1415039	1	Tachometer head
32	1315013	2	Fuse, 10 amp
33	0115044	2	Fuse holder
34	1415080	1	Wiring harness
35	2119139	A/R	Tie clamp
36	01705-10	2	DG clamp
37	0115023	1	Light, instrument panel
38	0115018	1	Light globe, 12 volt
39	01705-15	1	DG clamp
40	0101411	8	Wire cup

\* Optional equipment





TRACK ASSEMBLY, 25 3/8 STANDARD  
(Model 1404)  
1416137

See Figure 16-26

<u>Item No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
1	1416109-1	27	Cleat, L.H.
2	1416109-2	27	Cleat, R.H.
3	1416135	2	Cleat, lacing
4	1416100	56	Tire guide
5	1416131	2	Belt, 8"
6	1416112	4	Washer, 3/8 I.D.
7	01569-4	4	Lacing, 4 hole
8	1416115	54	Backing plate, 2 hole
9	1416116	54	Backing plate, 3 hole
10	1416134	8	Backing plate, 4 hole
11	01528-25	296	Uni-torque nut, 5/16-24 NF
12	0500-524	2	Hex. hd. cap screw, 5/16-24 NF x 6 1/2 lg.
13	01504-38	294	Hex. hd. cap screw, 5/16-24 NF x 1 lg.

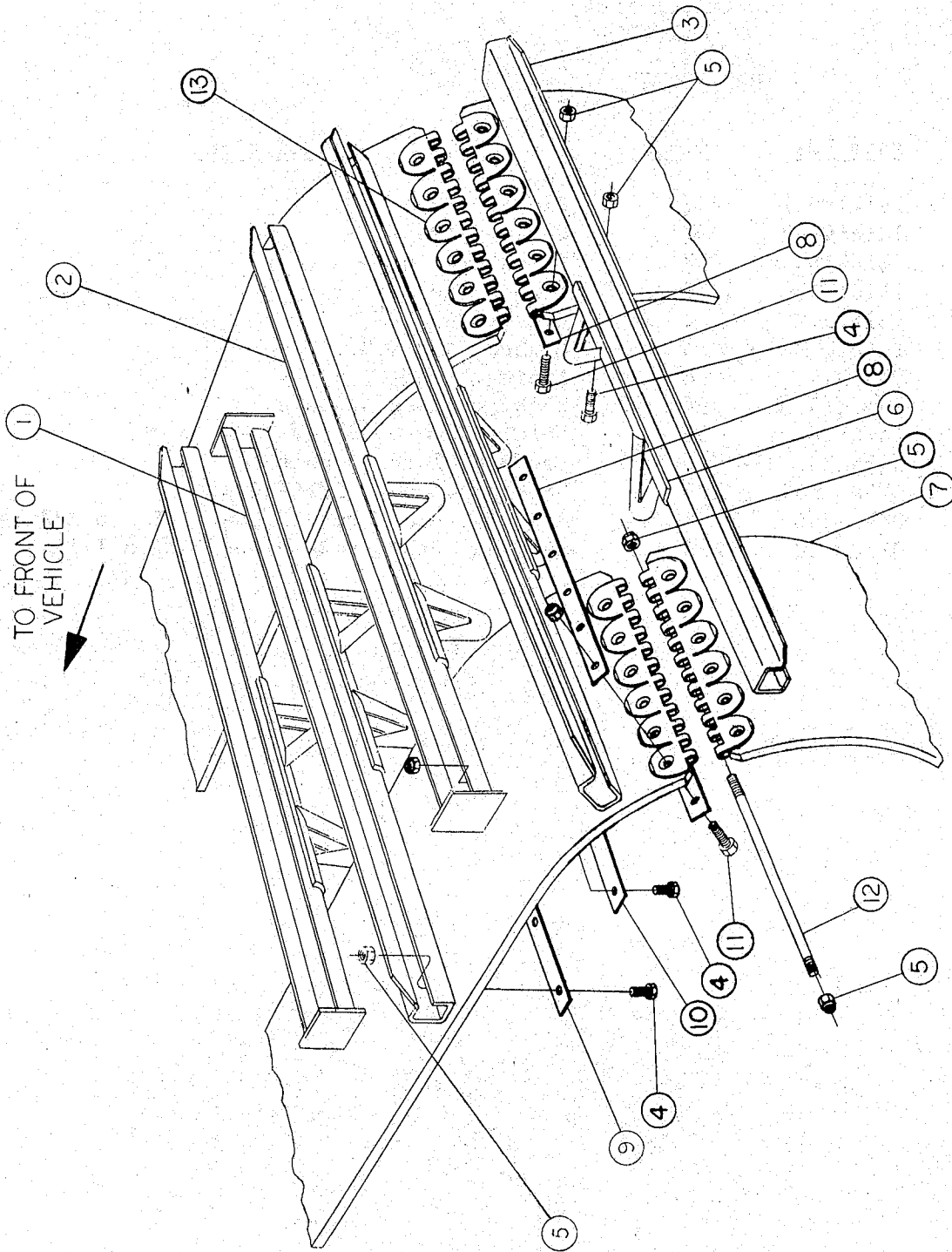


FIGURE 16-27  
 (MODEL 1404) (WIDE TRACK)  
 8-2-74

TRACK ASSEMBLY, 31 1/4 WIDE  
 (Model 1404)  
 1416138

See Figure 16-27

<u>Item No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
1	1416106-1	27	Cleat, L.H.
2	1416106-2	27	Cleat, R.H.
3	1416126	2	Cleat, lacing
4	01504-38	385	Hex. hd. cap screw, 5/16-24 NF x 1 lg.
5	01528-25	411	Uni-torque nut, 5/16-24 NF
6	1416100	56	Tire guide
7	1416124	2	Belting, 9 1/2 wide
8	1416199	8	Backing plate, 6 hole
9	1416118	54	Backing plate, 3 hole
10	1416117	54	Backing plate, 2 hole
11	01504-40	24	Hex. hd. cap screw, 5/16-24 NF x 1 1/4 lg.
12	1216203-7	2	Lacing rod
13	01569-6	4	Belt lacing, 6 hole <i>9 1/2 long</i>

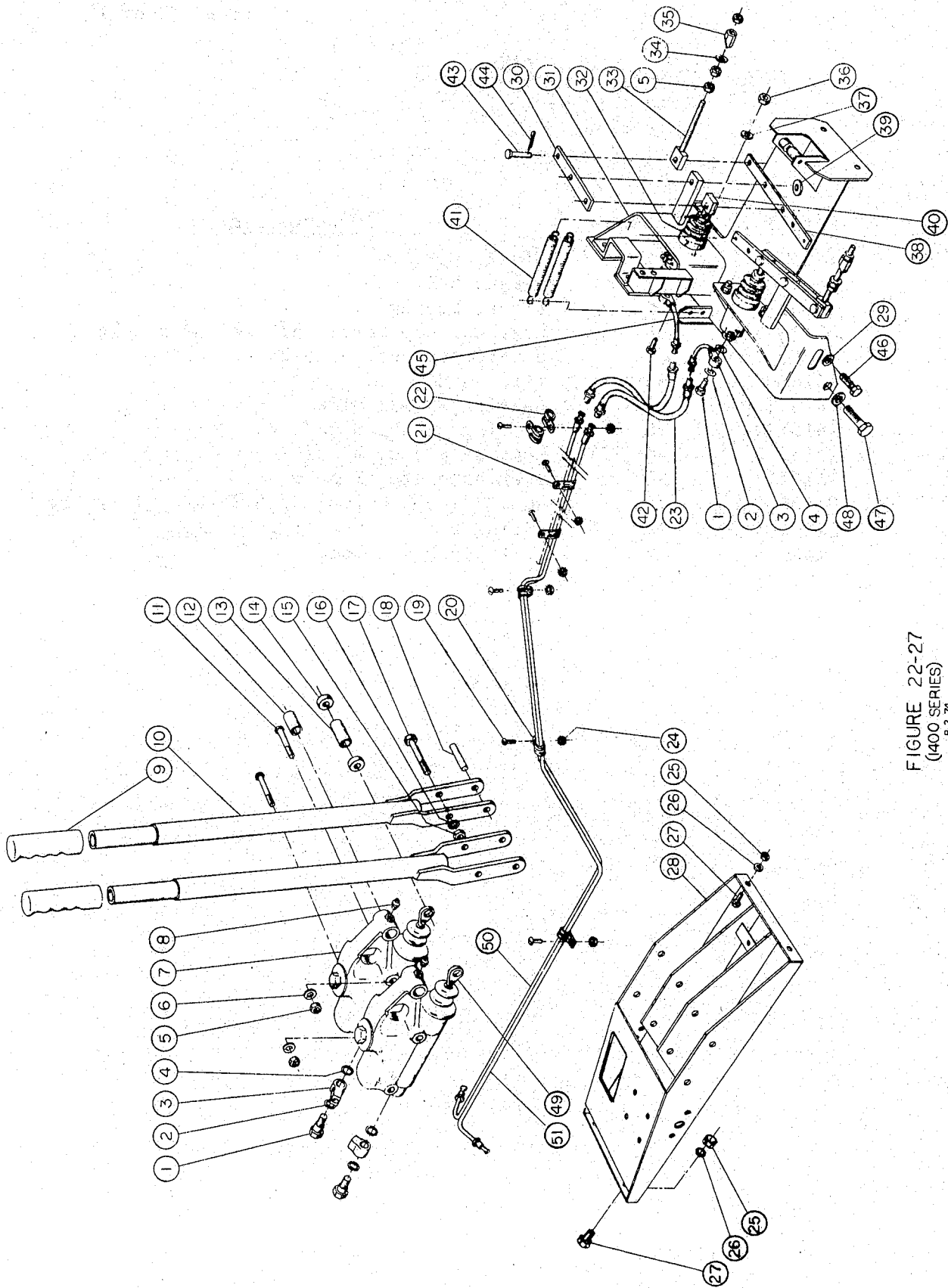


FIGURE 22-27  
 (400 SERIES)  
 8-2-74

## STEERING CONTROLS

(Model 1404)

1422036

See Figure 22-27

<u>Item No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
1	0101443	2	Connector bolt
2	0101445	2	Gasket, master cylinder connector, 19/32 I.D.
3	0101444	2	Master cylinder connector
4	0101446	2	Gasket, master cylinder connector, 1/2 I.D.
5	01520-38	4	Hex. nut, 3/8-24 NF
6	01554-8	4	Split lock washer, 3/8 med.
7	0622015	2	Master cylinder assy, modified
8	0101226	2	Grease fitting, 1/8-27 NPT, straight
9	0222008	2	Grip, control lever
10	1222007	2	Steering control lever
11	01500-78	2	Hex. hd. cap screw, 3/8-24 NF x 3 lg.
12	0622004	4	Sleeve, steering lever pivot
13	0622005	2	Sleeve, master cylinder push rod pivot
14	0622006	4	Spacer, master cylinder push rod
15	01520-40	2	Hex. nut, 1/2-20 NF
16	01554-10	2	Split lock washer, 1/2 med.
17	01500-137	2	Hex. hd. cap screw, 1/2-20 NF x 2 3/4 lg.
18	1122004	2	Pin, steering linkage
19	0101402	6	Rd. hd. machine screw, #10-32 NF x 3/4 lg.
20	0101347	3	Clamp, line supporting, for two 1/4 dia. line
21	0101462	2	Clamp, line supporting, for three 1/4 dia. line
22	0101345	2	Clamp, line supporting, for 9/16 dia. line
23	1322004	2	Flex line assy (Includes the next 2 items)
		1	Hose, 12 lg., Parker No. 3/16-201
	0101474	2	Connector, 37° flare cone
24	0101337	6	Self locking nut, #10-32 NF
25	01520-37	4	Hex. nut, 5/16-24 NF
26	01554-7	4	Split lock washer, 5/16 med.
27	01500-36	4	Hex. hd. cap screw, 5/16-24 NF x 3/4 lg.
28	1422013-5	1	Bracket, steering master cylinder.
29	01554-11	2	Split lock washer, 9/16 med.
	1422035	1	Slave cylinder assy (Includes next 21 items)
1	0101443	2	Connector bolt
2	0101445	2	Gasket, master cylinder connector, 19/32 I.D.
3	0101444	2	Master cylinder connector
4	0101446	2	Gasket, master cylinder connector, 1/2 I.D.

STEERING CONTROLS (Cont'd)  
 (Model 1404)  
 1422036

See Figure 22-27A

<u>Item No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
5	01521-38	6	Hex. nut, 3/8-24 NF
30	1422020	2	Lever, short
31	1414020	1	Slave cylinder bracket
32	1422023	2	Slave cylinder
33	1422024	2	Eye bolt
34	0101392	2	Flat washer, 3/8 extra thk.
35	0222016	2	Nut, control lever adj. rod
36	01520-39	4	Hex. nut, 7/16-20 NF
37	01554-9	4	Split lock washer, 7/16 med.
38	1422026	2	Lever, long
39	01551-6	6	Flat washer, 3/8 large
40	1422021	2	Push rod
41	0103008	2	Spring, 1 O.D. x .125 wire dia. x 5 1/2 lg.
42	01500-100	4	Hex. hd. cap screw, 7/16-20 NF x 1 1/4 lg.
43	01540-207	6	Clevis pin, 3/8 dia. x 1.156 lg.
44	01541-42	6	Cotter pin, 1/16 dia. x 3/4 lg.
45	1322010	2	Hydraulic line assy, rear, 3 lg.
46	01501-160	3	Hex. hd. cap screw, 9/16-12 NC x 1 1/4 lg.
47	01501-224	2	Hex. hd. cap screw, 3/4-10 NC x 2 lg.
48	01554-13	2	Split lock washer, 3/4 med.
49	0622014	2	Push rod
50	1422032	1	Hydraulic line assy, front (Includes next 3 items)
		1	Tubing, steel, 1/4 dia. x .028 wall x 78 lg.
	0203011	1	Standard nut, 45° inverted flare, for 1/4 dia. tube
	0101473	1	Long tube nut, 37° SAE flare, for 1/4 dia. tube
51	1422031	1	Hydraulic line assy, front (Includes next 3 items)
		1	Tubing, steel, 1/4 dia. x .028 wall x 78 lg.
	0203011	1	Standard nut, 45° inverted flare, for 1/4 dia. tube
	0101473	1	Long tube nut, 37° SAE flare, for 1/4 dia. tube



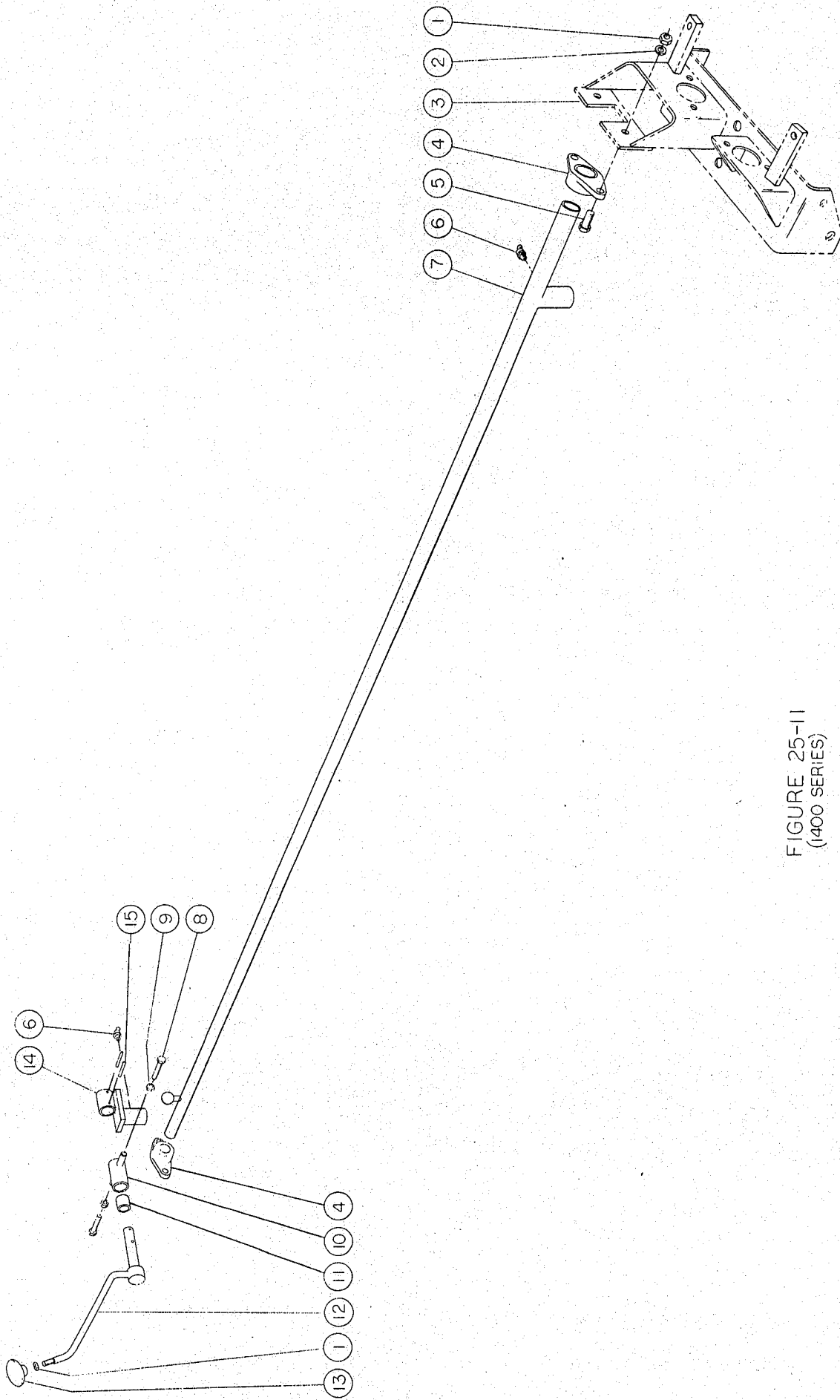


FIGURE 25-11  
(1400 SERIES)



TRANSMISSION CONTROLS  
(Model 1404)

See Figure 25-11

<u>Item No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
1	01520-38	5	HEX.NUT, 3/8-24 NF
2	01554-8	4	SPLIT LOCK WASHER, 3/8 med.
3			SLAVE CYLINDER MOUNT (See Steering Controls, Fig. 22-10)
4	1325009	2	CONTROL SHAFT BEARING
5	01500-68	4	HEX.HD.CAP SCREW, 3/8-24 NF x 1 lg.
6	0101301	2	GREASE FITTING, 1/4-28 NF, 45° angle
7	1425007	1	SHIFTING CONTROL ROD
8	1325010	2	PIVOT PIN
9	01520-39	2	HEX.NUT, 5/16-14 NC
	1425006	1	SHIFTING CROSS ASSY (Includes next 2 items)
10	1425003	1	SHIFTING CROSS
11	0101560	1	BRONZE BUSHING
12	1425004	1	SHIFTING LEVER & SHAFT
13	0110029	1	SHIFTING LEVER KNOB
14	1325003	1	CUP #1, SHIFTING ARRANGEMENT
15	01542-198	2	ROLL PIN, 7/32 dia. x 1 1/2 lg.

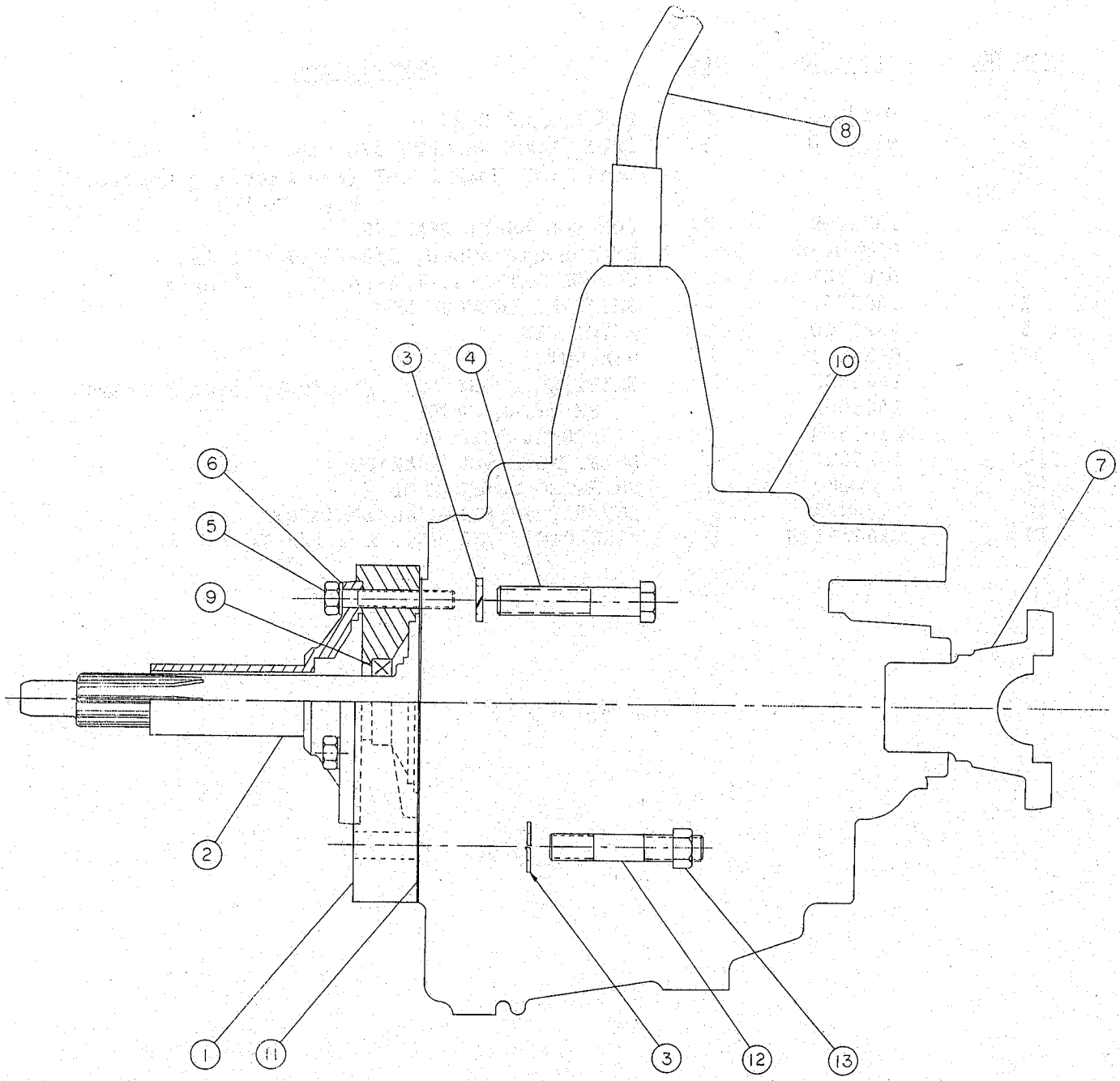


FIGURE 25-13  
(MODEL 1404)

TRANSMISSION  
(Model 1404)

See Figure 25-13

<u>Item No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
	1425010	1	TRANSMISSION ASSY
1	1425008	1	SPACER
2	0209019	1	BEARING RETAINER
3	01554-9	3	SPLIT LOCK WASHER, 7/16 med.
4	01501-106	3	HEX.HD.CAP SCREW, 7/16-14 NC x 2 1/2 lg.
5	01501-44	3	HEX.HD.CAP SCREW, 5/16-18 NC x 2 lg.
6	01554-7	3	SPLIT LOCK WASHER, 5/16 med.
7	1425011	1	END YOKE
8	1425014	1	SHIFT LEVER
9	1425012	1	OIL SEAL
10	1425010	1	TRANSMISSION
11	1425015	1	GASKET
12	0101955	1	STUD
13	01520-9	1	HEX.NUT, 7/16-14 NC

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05/12/2020

06/12/2020

## PARTS LIST

Warner T-96 Transmission

(1 of 3)

<u>Item No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
1	AC90-2	1	Control Lever
2	4644LL	1	Companion Flange
3	C37J-50A	1	Control Lever Hand Ball
4	AT96-2	1	Mainshaft Assembly (includes next 34 items)
5	T96-2	1	Mainshaft
6	AT96-2½	1	Synchronizer Unit Assembly
7	T96-2½	1	Intermediate & High Clutch Hub
8	T96-15	1	Second & Direct Clutch Sleeve
9	T96-13	3	Shifting Plate
10	4682K	2	Synchronizer Spring
11	AT96-11	1	Mainshaft Second Speed Gear & Bushing Assembly
12	T96-11	1	Mainshaft Second Speed Gear
13	T96-19	1	Second Speed Gear Bushing
14	T84F-14	2	Synchronizer Blocking Ring
15	4686A	1	Clutch Hub Snap Ring
16	T96-12	1	Mainshaft Low & Reverse Gear
17	4956AG	1	#1206 Annular Bearing
18	T84-7½	1	Mainshaft Bearing Snap Ring
19	T84-7½A	1	Bearing Snap Ring
20	T96-75½	1	Main Shaft Spacer
21	T2-50EB	1	Main Shaft Nut
22	FW6-50½P	1	Main Shaft Washer
23	X2985	1	3/4" Lock Washer
24	T96-7C	1	Rear Bearing Retainer
25	T96-145½G	1	Rear Bearing Retainer Gasket
26	X702	4	7/16-14 x 7/8 Hex Head Bolt
27	X2979S	4	7/16 Lock Washer

## PARTS LIST

Warner T-96 Transmission

(2 of 3)

<u>Item No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
28	R6-110A	1	Main Shaft Oil Seal Assembly
29	T96-8	1	Countershaft Gears
30	T96C-28	1	Countershaft Bearing Spacer
31	T96-29	4	Countershaft Bearing Spacer
32	T96-30	1	Countershaft Thrust Washer, Front
33	T96C-32	1	Countershaft Thrust Washer, Rear
34	T86-166	40	Bearing Rollers
35	T96-33	1	Countershaft Thrust Washer, Rear
36	T96-3	1	Countershaft
37	T96-35	1	Reverse Idler Shaft
38	T96C-48	1	Idler & Countershaft Lock Plate
39	AT96-10	1	Reverse Idler Gear Assembly (includes next 6 items)
40	T96-10	1	Reverse Idler Gear
41	T96-85	1	Reverse Idler Gear Bushing
42	T84G-6E	1	Main Drive Gear Bearing Retainer
43	T84-145A	1	Main Drive Gear Bearing Retainer Gasket
44	20366-S	3	5/16 - 18 x 7/8 Hex. Head Bolt
45	4801A	3	5/16" Lock Washer
46	AT96-16A	1	Main Drive Gear Assembly (includes next 29 items)
47	T96-16A	1	Main Drive Gear
48	X3204G	1	Annular Bearing
49	B7070	1	M.D. Gear Bearing Snap Ring use as required
50	T84G-6 $\frac{1}{2}$	1	M.D. Gear Bearing Snap Ring use as required
51	T84-17	1	M.D. Gear Snap Ring use as req'd
52	T84-17A	1	M.D. Gear Snap Ring use as req'd
53	T84-17B	1	M.D. Gear Snap Ring use as req'd
54	T90A-136	1	M.D. Gear Oil Baffle
55	T84G-26	13	Mainshaft Pilot Bearing Roller
56	4681GG	1	Stem Protector

## PARTS LIST

Warner T-96 Transmission

(3 of 3)

<u>Item No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
57	T96-148E	1	Control Housing
58	4023B	1	Control Bracket Pin
59	4572F	2	Shift Rail Cap
60	T96-20E	1	High & Inter. Shift Rail
61	T96-21E	1	Low & Reverse Shift Rail
62	T96-23E	1	High & Inter. Shift Fork
63	T96-24E	1	Low & Reverse Shift Fork
64	455481	2	Gear Shift Fork Pin
65	T8B-42	2	Poppet Spring
66	T90-86	1	Interlock Plunger
67	4187A	1	Control Lever Support Spring
68	X2137	2	3/8" Steel Ball
69	4572D	1	3/8" Taper Plug
70	T96-115	1	Control Housing Gasket
71	20366-S	4	5/16 - 17 x 7/8 Hex. Head Bolt
72	X2977	4	5/16 Lock Washer
73	AC90C-2B	1	Control Lever
74	C37J-2½A	1	Control Lever Fulcrum Ball
75	X1929	1	3/16" Round Pin
76	T96-1E	1	Transmission Case
77	X1519	2	1/2" Pipe Plug

NOTE: These parts numbers are Warner Gear Division of  
Borg - Warner Corporation

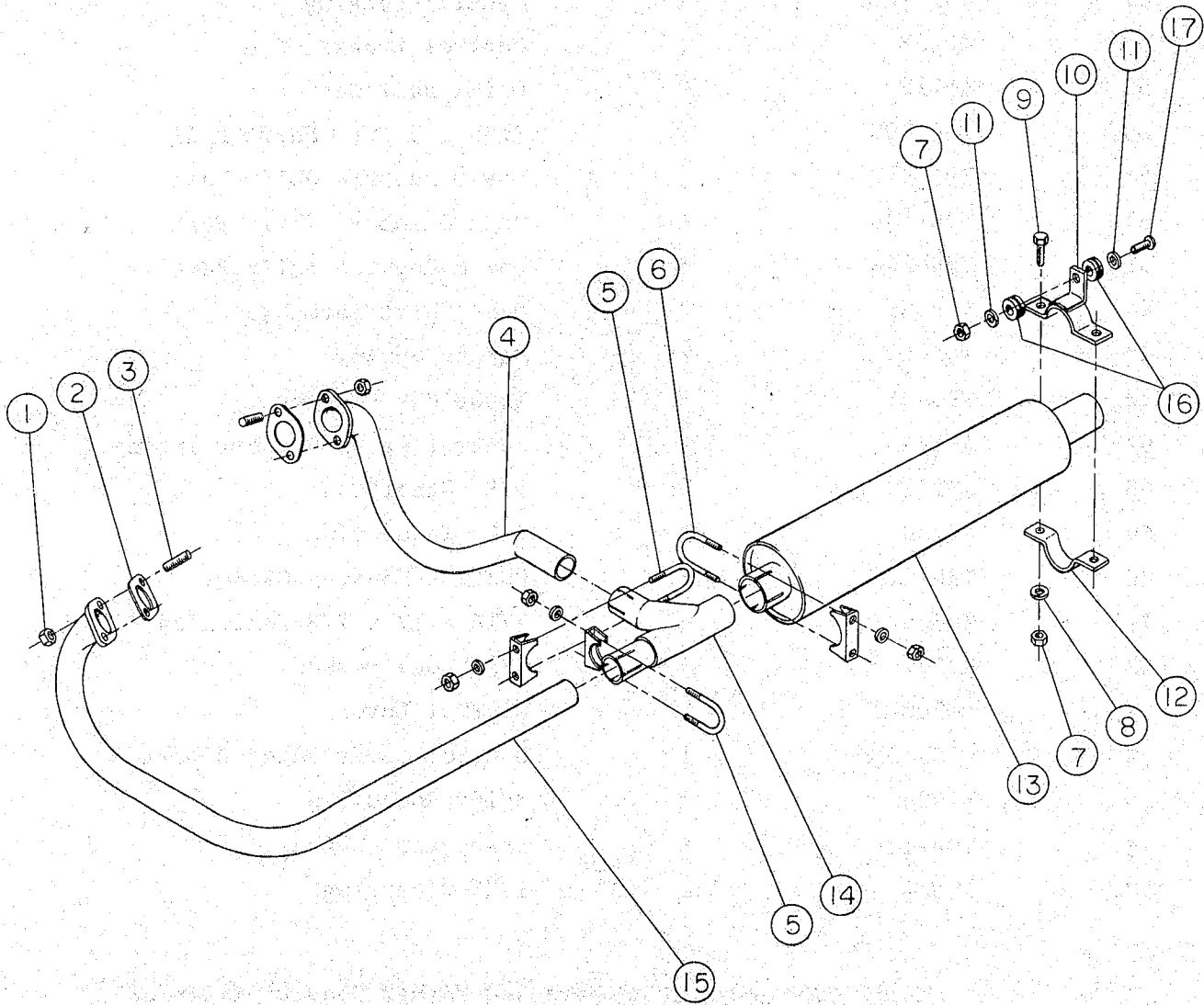


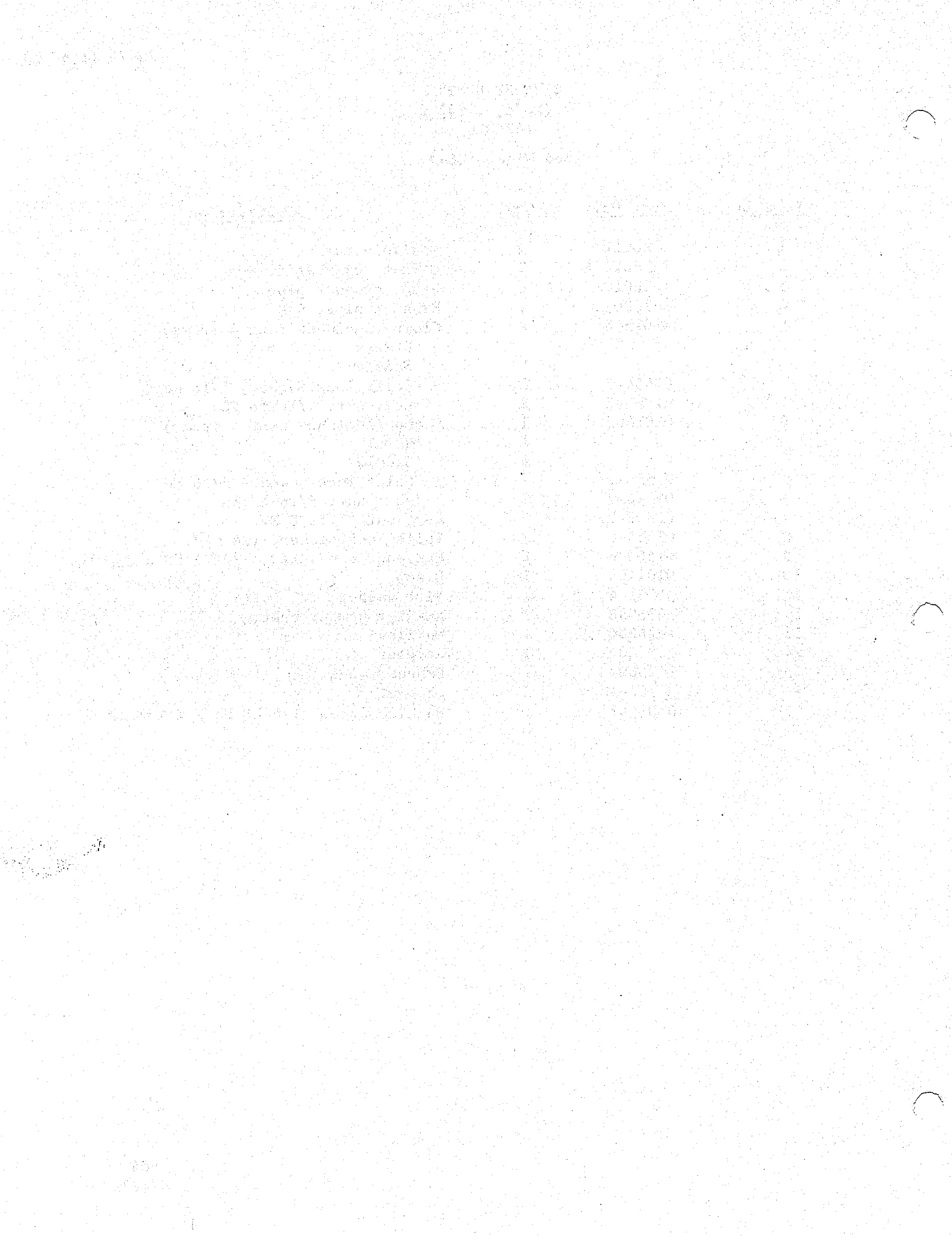
FIGURE 26-7  
(MODEL 1404)



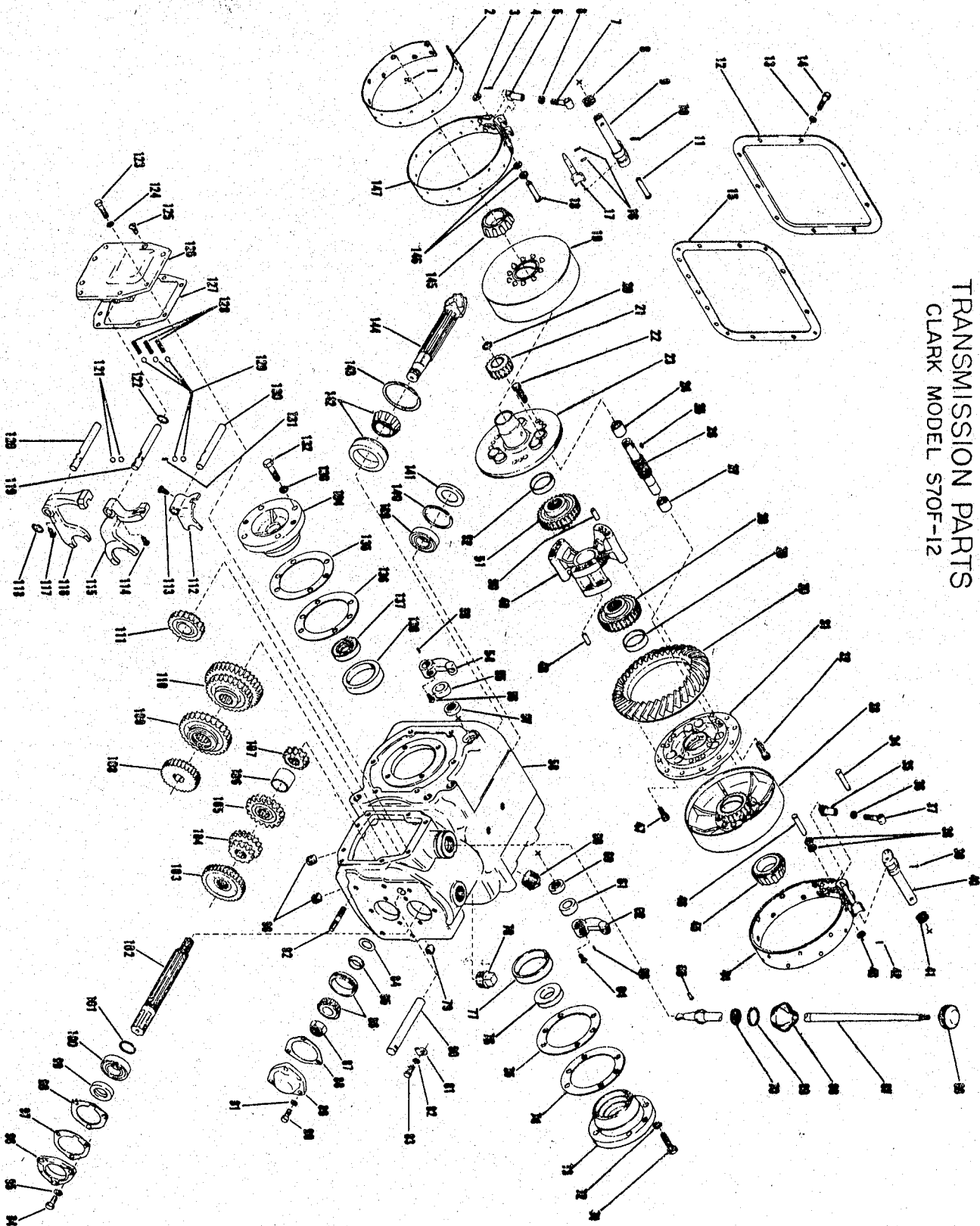
EXHAUST SYSTEM  
(Model 1404)  
1426006

See Figure 26-7

<u>Item No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
1	1426011	4	Manifold nut
2	1426012	2	Gasket, exhaust flange
3	1426010	4	Stud, exhaust pipe
4	1426008	1	Exhaust pipe, R.H.
5	0101548	2	Clamp (Includes next 4 items)
		1	U Bolt
		1	Saddle
	01554-7	2	Split lock washer, 5/16 med.
	01520-7	2	Hex. nut, 5/16-18 NC
6	0101405	1	Clamp (Includes next 4 items)
		1	U Bolt
		1	Saddle
	01554-7	2	Split lock washer, 5/16 med.
	01520-7	2	Hex. nut, 5/16-18 NC
7	01520-36	3	Hex. nut, 1/4-28 NF
8	01554-6	2	Split lock washer, 1/4 med.
9	01500-6	2	Hex. hd. cap screw, 1/4-28 NF x 3/4 lg.
10	0101404	1	Clamp
11	01551-4	1	Flat washer, 1/4 large
12	1426038	1	Muffler hanger brkt.
13	1426004	1	Muffler
14	1426005	1	Adapter
15	1426009	1	Exhaust pipe, L.H.
16	01700-12	2	Grommet
17	0101741	1	Machine screw, 1/4-28 NF x 1 1/2 lg.



TRANSMISSION PARTS  
CLARK MODEL S70F-12



1309021



CLARK EQUIPMENT COMPANY  
 Automotive Division  
 Jackson - Buchanan, Michigan  
 1309021  
 TRANSMISSION ASSEMBLY

CLARK MODEL: S70F-12  
 #282020

<u>Item</u>	<u>Qty.</u>	<u>Part No.</u>	<u>Description</u>
1	38	3H-908	Brake Band and Lining Rivet
2	2	216507	Brake Band Lining
3	1	619023	Clevis Adjusting Arm Clevis Pin Washer
4	1	1F-312	Clevis Pin Cotter Pin
5	1	224388	Clevis
6	2	224390	Clevis Adjusting Arm Jam Nut
7	2	224387	Clevis Adjusting Arm
8	2	204377	Brake Cam Spring
9	1	224373	Brake Band Cam, R.H.
10	1	1F-312	Clevis Pin Cotter Pin
11	1	224391	Clevis Pin
12	1	209851	Differential Cover Plate
13	9	4E-07C	Differential Cover Plate Screw Lock Washer
14	9	1C-710	Differential Cover Plate Screw
15	1	0209032	Differential Cover Plate Gasket
16	2	743830	Brake Strut Roll Pin
17	1	216511	Brake Strut Roll Pin
18	1	224391	Clevis Pin
19	1	222597	Brake Drum Gear and Bushing Assembly
20	6	204040	Planet Gear Snap Ring
21	6	222550	Planet Gear
22	6	3C-724	Differential Housing to Center
23	1	220857	Differential Housing and Bushing Assembly, R.H. - Includes Items 24 and 52
24	6	204225	Planet Pinion Bushing
25	6	5J-606	Planet Pinion Key
26	6	222551	Planet Pinion
27	6	204225	Planet Pinion Bushing
28	2	222552	Axle Shaft Gear
29	1	204227	Axle Shaft Gear Bushing
30	1	221464	Ring Gear
31	1	220856	Differential Housing and Bushing Assembly, L.H. - Includes Items 27 and 29
32	6	3C-724	Differential Housing to Center Member Screw
33	1	222597	Brake Drum Gear and Bushing Assembly
34	1	224391	Clevis Pin
35	1	224388	Clevis
36	1	224390	Clevis Adjusting Arm Jam Nut
37	1	224387	Clevis Adjusting Arm

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<u>Item</u>	<u>Qty.</u>	<u>Part No.</u>	<u>Description</u>
38	2	619023	Clevis Adjusting Arm Clevis Pin Washer
39	1	1F-312	Clevis Pin Cotter Pin
40	1	224374	L.H. Brake Band Cam
41	1	204377	Brake Cam Spring
42	1	1F-312	Clevis Pin Cotter Pin
43	1	619023	Clevis Adjusting Arm Clevis Pin Washer
44	1	230769	Brake Band, Anchor and Lining Assembly
45	1	654137	Differential Bearing Cone
46	1	224391	Clevis Pin
47	12	224228	Ring Gear Screw
48	3	204238	Differential Center Member Housing Dowel
49	1	204277	Differential Center Member Housing
50	3	204238	Differential Center Member Housing Dowel
51	1	222552	Axle Shaft Gear
52	1	204227	Axle Shaft Gear Bushing
53	2	6J-607	Brake Cam Key
54	2	224642	Outside Brake Lever
55	2	616243	Brake Cam Spacer
56	2	201946	Outside Brake Lever Screw
57	2	206560	Brake Cam Oil Seal
58	1	223660	Transmission Case
59	2	13F-16	Filler Plug
60	2	206560	Brake Cam Oil Seal
61	2	616243	Brake Cam Spacer
62	2	224642	Outside Brake Lever
63	2	6J-607	Brake Cam Key
64	2	201946	Outside Brake Lever Screw
65	1	201054	Shift Lever Pivot Pin
66	1	201401	Shift Lever Knob
67			Shift Lever (Furnished by Customer)
68	1	201300	Shift Lever Dust Cover
69	1	223869	Shift Lever Pivot Washer Ring
70	1	203277	Shift Lever Pivot Washer
71	4	1C-824	Differential Bearing Carrier Cap Screw
72	4	4E-08	Differential Bearing Carrier Cap Screw Lock Washer
73	1	222569	Differential Bearing Carrier
74	1	204089	Differential Bearing Carrier Shim
75	A/R	204088	Differential Bearing Carrier Shim
76	1	206565	Differential Oil Seal
77	1	654166	Differential Bearing Cup
78	1	13F-16	Filler Plug
79	1	13F-08	Drain and Oil Level Plug
80	1	221977	Reverse Idler Shaft
81	1	201929	Reverse Idler Shaft Lock Plate
82	1	6E-06	Reverse Idler Shaft Lock Plate Screw Lock Washer
83	1	1C-610	Reverse Idler Shaft Lock Plate Screw
84	A/R	205907	Pinion Shaft Front Bearing Shim
84A	A/R	205908	Pinion Shaft Front Bearing Shim

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<u>Item</u>	<u>Qty.</u>	<u>Part No.</u>	<u>Description</u>
84B	A/R	205909	Pinion Shaft Front Bearing Shim
85	1	207376	Pinion Shaft Front Bearing Spacer
86	1	223249	Pinion Shaft Front Bearing
87	1	203013	Pinion Shaft Front Bearing Adjusting Nut
88	1	207375	Pinion Shaft Front Bearing Gasket
89	1	207374	Pinion Shaft Bearing Cap
90	3	1C-614	Pinion Shaft Front Bearing Cap Cap Screw
91	3	4E-06	Pinion Shaft Front Bearing Cap Cap Screw Lock Washer
92	4	222734	Case Studs - Front
93	2	13F-08	Drain and Oil Level Plug
94	3	1C-614	Mainshaft Front Bearing Cap Cap Screw
95	3	4E-06	Mainshaft Front Bearing Cap Cap Screw Lock Washer
96	1	207366	Mainshaft Front Bearing Cap and Oil Seal Assembly - Includes Item 99
97	1	207368	Mainshaft Front Bearing Cap Gasket
98	A/R	207369	Mainshaft Front Bearing Cap Shim
98A	A/R	207370	Mainshaft Front Bearing Cap Shim
98B	A/R	207371	Mainshaft Front Bearing Cap Shim
99	1	206563	Oil Seal
100	1	743408	Mainshaft Front and Rear Bearing
101	1	224044	Mainshaft Locating Snap Ring
102	1	207345	Mainshaft
103	1	222554	Mainshaft 4th Gear
104	1	207347	Mainshaft 2nd and Reverse Gear
105	1	207348	Mainshaft 3rd Gear
106	1	207372	Mainshaft 1st and 3rd Gear Spacer
107	1	207349	Mainshaft 1st Gear
108	1	222561	Pinion Shaft 4th Gear and Bushing Assembly
109	1	207351	Pinion Shaft 2nd and Reverse Gear
110	1	207352	Pinion Shaft 1st and 3rd Gear
111	1	222559	Reverse Idler Gear and Bushing Assembly
112	1	222556	Reverse Shift Fork
113	1	201566	Fork Lock Screw
114	1	201566	2nd and 4th Shift Fork Lock Screw
115	1	207380	2nd and 4th Fork Lock Screw
116	1	207381	1st and 3rd Shift Fork
117	1	201566	1st and 3rd Shift Fork Lock Screw
118	A/R	207024	Overshift Spacer
119	1	207383	1st and 3rd Shift Rail
120	1	207384	1st and 3rd Shift Rail
121	2	10J-12	Mesh Lock Ball
122	A/R	207024	Overshift Spacer
123	7	1C-614	Cover to Case Cap Screw
124	7	4E-06	Cover to Case Cap Screw Lock Washer
125	1	205303	Cover to Case Screw
126	1	208112	Control Cover
127	1	207379	Control Cover Gasket

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<u>Item</u>	<u>Qty.</u>	<u>Part No.</u>	<u>Description</u>
128	1	202200	Mesh Lock Spring
129	5	10J-12	Mesh Lock Ball
130	1	222557	Reverse Shift Rail
131	1	201093	Interlock Pin
132	4	1C-824	Differential Bearing Carrier Cap Screw
133	4	4E-08	Differential Bearing Carrier Cap Screw Lock Washer
134	1	222569	Differential Bearing Carrier
135	1	204089	Differential Bearing Carrier Shim
136	A/R	204088	Differential Bearing Carrier Shim
137	1	206565	Differential Oil Seal
138	1	654166	Differential Bearing Cup
139	1	743408	Mainshaft Front and Rear Bearing
140	1	223863	Mainshaft Rear Bearing Snap Ring
141	1	207373	Mainshaft Rear Bearing Oil Cup
142	1	223250	Pinion Shaft Rear Bearing
143	1	224098	Pinion Shaft Rear Bearing Snap Ring
143A	1	224099	Pinion Shaft Rear Bearing Snap Ring
143B	1	224101	Pinion Shaft Rear Bearing Snap Ring
143C	1	224102	Pinion Shaft Rear Bearing Snap Ring
143D	1	224100	Pinion Shaft Rear Bearing Snap Ring
144	1	207350	Pinion Shaft
145	1	654137	Differential Bearing Cone
146	2	619023	Clevis Adjusting Arm Clevis Pin Washer
147	1	N.S.S.	Brake Band - See Item 44



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## CLARK EQUIPMENT COMPANY

## Maintenance Data for S70FS

1. After removal from chassis, clean exterior of unit thoroughly.
2. Drain lubricant by removal of drain plugs which are located at bottom of both the transmission and differential sections of case.  

DRAINING: Twice each year, or every 300 working hours, remove drain plugs in bottom of transmission and differential compartment, thoroughly drain and refill with correct grade of oil.
3. REMOVAL AND RELINING OF STEERING BANDS:
  - A. Remove differential case rear cover. Loosen steering adjusting nuts to relieve tension on bands.
  - B. Remove cotters and pins from each end of bands and rotate bands out around drums.
  - C. Remove rivets and worn lining and replace using new lining and rivets.
  - D. Reassembly of bands is reverse of removal; however, make certain that end of band, on which the lining does not cover the last two rivet holes, is to the rear of the unit.
4. If further repair of unit is required, proceed as follows:
5. After removal of steering bands, remove lever lock wire and setscrew. With blunt punch and hammer, drive lever from shaft. Remove Woodruff key and washer. Cam can now be removed by pulling out through inside of case, being careful that spring is not lost.
6. Examine seal and, if damaged, pry out and replace with new seal with lip of leather toward inside of case.
7. When reassembling, coat both the shaft and seal with light cup grease and be very careful that leather seal is not crimped or damaged when installing shaft.
8. Center punch differential bearing retainers and case so they may be reassembled in their respective positions. Place small wood blocks under steering drums and remove bearing retainers and shims. Wire or tie shims to each retainer to assure correct spacing of differential and bearing in reassembly. This is important. Differential can now be rolled out of case.

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## 9. DIFFERENTIAL DISASSEMBLY:

Pull off steering drum assembly and tapered roller bearings with suitable puller. Remove snap rings from planet gears. Gears are a tight press fit and will require a puller to remove them. On the left, or ring gear side, it will be necessary to remove three bevel gear cap screws nearest to the planet pinions, to provide clearance for the puller.

10. Punch mark left, center, and right differential housing to facilitate reassembly. Remove locking wire and twelve cap screws holding housing together, and separate them using a drift or hammer of lead or bronze material.

All gears can now be removed.

## 11. REASSEMBLY:

Re-install and tighten all ring gear cap screws in left-hand housing and replace wire, then assemble three planet gears into every other hole in housing with keyway out.

12. Stand housing and gears on end on solid bench with keyways up. Install keys and drive or press on planet pinions using suitable driver. Install new snap rings. Install axle shaft gear into housing and fit center housing in place. Install housing cap screws, but before screws are securely tightened, drive dowels into place and peen housing hole to prevent dowel from coming out, then tighten screws securely and wire.
13. Next, assemble the other three planet gears in the right-hand housing. Check housing center-punch marks to be sure gears are placed in the correct holes so that right and left-hand assemblies can be fitted together later and proceed as for left housing.
14. Install the right axle shaft gear in housing. Slip the two halves of differential together while slightly rotating gears until proper mesh is obtained to allow both halves of differential housing to correctly fit together. Install housing cap screws and drive dowels into place.
15. Install steering drums and check their rotation to be sure differential assembly does not bind, then drive on tapered bearing (small end out) using a drift of soft material.
16. REASSEMBLY INTO CASE:
- Place differential on small blocks in case to give correct height to install bearing retainers. Examine bearing retainer oil seals and replace with lip of leather pointing in to seal against oil.

17. If shims have been kept attached to correct retainers as removed, install left retainer with the same number of shims. However, if shims have been mixed, or in the event new ring gear and pinion have been installed, then proceed as follows:
18. Install left retainer using all shims removed from both retainers, with the exception of two .005 inch shims, and install and tighten cap screws. Next, install right retainer without any shims and draw retainer cap screws up equally, about 1/4 turn at a time, and continue to check tightness of differential carrier bearings by turning ring gear with hand (being sure transmission gears are in neutral) until a definite drag is felt. Then back off cap screws equally--just enough--until no drag is apparent, which is usually about one full turn. Then measure distance between retainer and differential case with a feeler gauge and select the correct number of shims to equal feeler gauge thickness and add one additional .005 shim and install under right retainer.
19. When both retainers have been installed and tightened, check backlash between ring gear and pinion. This should be .006 to .010 inch and, if not correct, remove shims from under right retainer and add to left to give more backlash, and just the opposite to give less backlash.
20. Re-install balance of parts removed, and while doing so, check and replace any worn or damaged parts.
21. Adjust STEERING BANDS and refill with correct grade of oil.
22. SHIFT LEVER:  
  
To remove from case, slide rubber dust cover up shaft to lever. Remove lever retaining ring and pull upward on lever. Remove pivot pin from case to prevent loss.
23. CONTROL COVER ASSEMBLY: (To remove and disassemble.)  
  
Remove screws and lift assembly from case.  
  
Remove lock wire and setscrews from 1st & 3rd fork and 2nd & 4th fork.  
  
Tap 1st & 3rd shift rail from cover. (Hold thumb over poppet well when rail is being removed. This will prevent poppet ball being lost.)  
  
Remove the two interlock balls from between rails.  
  
Proceed in same manner to remove the 2nd & 4th rails.  
  
The reverse fork lock screw will now be accessible for removal. After lock screw has been removed, then proceed as before to remove rail.

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## 24. REASSEMBLE CONTROL COVER:

Place detent spring and ball in position in well of reverse rail boss. Compress spring and bail and slide rail into and through boss. Place reverse fork on rail and slide the rail on into the opposite boss. Install lock screw and lock wire.

Install two interlock balls at side of reverse rail. Place spring and ball in well for 2nd & 4th rail.

Place interlock pin in 2nd & 4th rail, then proceed as before to install rail and fork.

Place two interlock balls at side of 2nd & 4th rail. Place spring and ball in well for 1st & 3rd rail, and proceed as previously to install rail and fork.

## 25. REMOVAL OF REVERSE SHAFT:

Remove lock screw and plate located at front of case. Shaft can now be pulled out toward the front, and gear with bushing lifted out.

## 26. REMOVAL OF COUNTERSHAFT (Lower):

Remove front bearing cap. Use a small chisel to unlock shaft nut from groove and remove nut. With a lead hammer, tap shaft out of case from front to rear, lifting gears and bearings off as shaft is removed. Keep all parts in their respective positions to facilitate reassembly. Bearing cups can now be driven out of case.

## 27. REMOVAL OF MAIN SHAFT (Upper):

Remove front bearing retainer and oil seal assembly, being careful to note number of shims used and that they are not lost. Use lead hammer to drive shaft out from rear to front, lifting gears, bearings and spacer off as shaft is removed. Keep all parts in their respective positions to facilitate reassembly. Rear bearing can now be driven out of case.

28. CAUTION: Before starting reassembly of transmission, inspect all parts and replace any that are damaged or excessively worn. When installing new bearings, it is advisable to install new cups. All cap screws leading directly into case should be sealed around threads.

## 29. INSTALLATION OF MAINSHAFT (Upper):

With rear bearing in position in case, slip shaft and snap ring assembly through front bearing opening in case installing, on shaft, the following in order named: 4th speed gear with hub toward rear, 2nd - reverse gear with larger gear toward rear, 3rd gear with hub toward rear, spacer,

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low speed gear with chamfer of teeth toward spacer. Tap the shaft into rear bearing. Install front bearing on shaft, with shielded side of bearing toward case, and tap into position. Using proper amount of shims, install bearings retainer and oil seal assembly and secure with cap screw and lock washers.

30. INSTALLATION OF PINION SHAFT (Lower):

With rear pinion shaft bearing cup in position in case, and cone pressed onto pinion shaft, slip the shaft through rear bearing bore and feed gears on shaft as follows: 1st & 3rd sliding gear (with shift fork groove toward front); 2nd & reverse sliding gear (with shift fork groove toward front); 4th gear assembly (with clutching teeth toward rear).

Install bearing spacer on shaft, oil grooves toward 4th speed gear. Install shims and bearing on shaft. Install retaining nut on shaft and tighten securely. Check bearing preload with torque wrench. The preload on the bearings should be from 8 to 10 inch pounds. If the reading is greater, it will be necessary to remove a certain amount of shims.

When proper adjustment is obtained, stake the lip of retaining nut into the groove in the shaft.

Install bearing cap and gasket and secure with cap screws and lock washers.

31. INSTALLATION OF REVERSE SHAFT:

Position gear and bushing in case with large gear to front and install shaft. Install lock plate and screw.

32. Install differential, control cover, and shift lever.

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the integrity of the financial system and for the ability to detect and prevent fraud. The text also mentions the need for regular audits and the role of independent auditors in ensuring the reliability of the data.

In addition, the document highlights the significance of transparency and accountability in financial reporting. It states that stakeholders, including investors and the public, have a right to know how their money is being managed and what the results are. This requires a high level of disclosure and a commitment to ethical standards.

The document also addresses the challenges of financial management in a complex and rapidly changing environment. It notes that organizations must be able to adapt to new risks and opportunities, which often requires innovative solutions and a strong focus on risk management. The text suggests that a proactive approach to risk assessment and mitigation is crucial for long-term success.

Finally, the document concludes by reiterating the importance of a strong corporate governance framework. It argues that a well-structured board of directors and a clear set of policies and procedures are necessary to ensure that the organization is managed in the best interests of all stakeholders. The text encourages organizations to continuously review and improve their governance practices.

The document also touches upon the role of technology in modern financial management. It notes that digital tools and platforms can significantly enhance the efficiency and accuracy of financial processes. However, it also warns of the risks associated with cyber security and data privacy, and stresses the need for robust IT controls and employee training.

In summary, the document provides a comprehensive overview of the key principles and practices of sound financial management. It serves as a guide for organizations seeking to improve their financial performance, ensure compliance with regulations, and build trust with their stakeholders. The text is intended for a wide audience of financial professionals and business leaders.