40 YR - 40 ER

Service Manual

S-406062 M3

Reprinted





THIS SAFETY ALERT SYMBOL INDICATES IMPORTANT SAFETY MESSAGES IN THIS MANUAL. WHEN YOU SEE THIS SYMBOL, CAREFULLY READ THE MESSAGE THAT FOLLOWS AND BE ALERT TO THE POSSIBILITY OF PERSONAL INJURY OR DEATH.

M171E

If Safety Decals on this machine use the words **Danger**, **Warning or Caution**, which are defined as follows:

- DANGER: Indicates an immediate hazardous situation which if not avoided, will result in death or serious injury. The color associated with Danger is RED.
- WARNING: Indicates an potentially hazardous situation which if not avoided, will result in serious injury. The color associated with Warning is ORANGE.
- CAUTION: Indicates an potentially hazardous situation which if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices. The color associated with Caution is YELLOW.

If Safety Decals on this machine are ISO two panel Pictorial, decals are defined as follows:

- The first panel indicates the nature of the hazard.
- The second panel indicates the appropriate avoidance of the hazard.
- Background color is YELLOW.
- Prohibition symbols such as







if used, are RED.



IMPROPER OPERATION OF THIS MACHINE CAN CAUSE INJURY OR DEATH. BEFORE USING THIS MACHINE, MAKE CERTAIN THAT EVERY OPERATOR:

- Is instructed in safe and proper use of the machine.
- Reads and understands the Manual(s) pertaining to the machine.
- Reads and understands ALL Safety Decals on the machine.
- Clears the area of other persons.
- Learns and practices safe use of machine controls in a safe, clear area before operating this machine on a job site.

It is your responsibility to observe pertinent laws and regulations and follow Case Corporation instructions on machine operation and maintenance.

#### **40YR-40ER TABLE OF CONTENTS**

# GENERAL Introduction \_\_\_\_ 6 Nomenclature \_ \_ \_ \_ \_ \_ 4, 5 Table of Contents \_ \_ \_ \_ 1, 2 MECHANICAL COMPONENTS AND CONTROLS A-E ELECTRICAL SYSTEM \_\_\_\_ Description \_ \_ \_ \_ \_ l thru 4 ENGINE AND THROTTLE LINKAGE Adjustments\_\_\_\_\_\_2 thru 4 Master Cylinder\_\_\_\_\_\_\_3 Slave Cylinder\_\_\_\_\_\_\_\_\_4 Trouble Shooting Master/Slave Cylinder Hydraulic Systems (see section "C") BRAKES AND BRAKE LINKAGE\_\_\_\_ General Description Master Cylinder\_\_\_\_\_\_\_3, 4 Power System with trouble shooting information \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ 5 thru 7 Mico Brake Lock with trouble shooting information \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ 8, 9 Trouble Shooting Master/Slave Cylinder DRIVE CONTROLS AND DRIVE LINE\_ Controls, with trouble shooting information \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ 1 thru 3 Trouble Shooting Differential \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ 18 Trouble Shooting Planetary \_ \_ \_ \_ 29 Torque Specifications for Differential and Planetary Drive Units \_ \_ \_ \_ \_ 31 Trouble Shooting Drive Controls \_\_\_\_\_\_\_33 SWING MECHANISM Description \_ \_ \_ \_ \_ 1 Swing Brake Overhaul\_\_\_\_\_\_1 Swing Reduction Gearbox ---- 2 thru 8 Replacing Turntable Bearing and Positioning Swing Pinion \_ \_ \_ \_ \_ 8 thru 12

			•	
				3
			•	
			(	
•				

## 40YR-40ER TABLE OF CONTENTS (CONT'D)

HYDRAULIC SYSTEM <b>F-O</b>		
GUIDE TO THE 40 R HYDRAULIC SYSTEM  What is a Hydraulic System?  Schematic Diagrams  Description of 40 R Hydraulic System  Pumps  Control Valves  Relief Valves  Low Pressure Components  Steering Controls  Optional Equipment	1, 2 3, 4 5 thru 15 5 thru 7 7 thru 11 11 thru 14 14, 15	
RELIEF PRESSURE CHECK  Why Check Relief Pressure? Relief Pressure Check Procedures Relief Pressure Charts	THE	
TROUBLE SHOOTING THE 40 R HYDRAULIC SYSTEM  Why Trouble Shooting?  Trouble Shooting Procedures  Pumps  Control Valves  Steering Orbitrol  Relief Valves  Swing Motor  Cylinders  Trouble Shooting Charts  Pump  General Hydraulic System Malfunctions  Valve Banks  Swing Circuit  Outrigger, Hoist, Crowd, Tool Circuits  Steering Circuit	1 thru 4  1 1, 2  2 2, 3  3, 4  5 thru 12  5 thru 8  8, 9  10, 11	
MAIN PUMP OVERHAUL PROCEDURE	J	
STEERING PUMP OVERHAUL PROCEDURE	K.	
SWIVEL OVERHAUL PROCEDURE		
CONTROL VALVE OVERHAUL PROCEDURE		
ORBITROL OVERHAUL	See NOTE on page H3 of TROUBLE SHOOTING section	
SWING MOTOR OVERHAUL PROCEDURE	N	
CYLINDER OVERHAUL PROCEDURE		J
GENERAL TORQUE SPECIFICATIONS  Capscrews and Studs		

# DROTT

#### MANUFACTURING COMPANY

A Division of J. J. Case Company

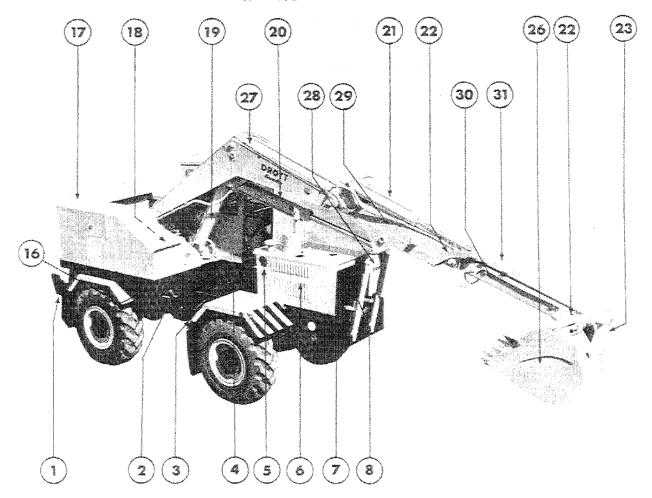
#### WARRANTY

- 1. Drott warrants that it will repair or furnish without charge F. O.B. its factory, in accordance with its published Claim and Adjustment Policy in effect at the date of sale by the Distributor, a similar part to replace any material in its equipment which within six months or 1200 hours (whichever occurs first) after the date of sale by Distributor, is proven to the satisfaction of Drott to have been defective at the time it was sold, provided that, if so requested, all parts claimed defective shall be returned properly identified to the Company's factory, charges prepaid.
- 2. Drott makes no warranty of merchantability or otherwise except as herein provided. No warranty other than title and description has been made or exists either expressly or by implication, all other statutory and implied warranties, including warranties as to merchantability, being hereby expressly waived and excluded from this transaction, and the Company's liability in connection with this transaction is expressly limited to the repair or replacement of defective parts in accordance with its published Claim and Adjustment Policy in effect at the date of sale by the Distributor, all other damages direct or consequential, arising under statute, through negligence or otherwise, being hereby expressly waived.
- 3. This warranty applies only to new and unused equipment which, after shipment from the factory of the Company, has not been altered, changed, repaired, or treated in any manner whatsoever. No Warranty of any-kind, statutory, implied, or otherwise, relating to merchantability, fitness or other qualities shall apply to trade accessories, attachments, tools, or implements not manufactured by Drott, or to second-hand equipment, or to new and unused equipment, which, after shipment from the Factory, has been altered, changed, repaired, or treated in any manner whatsoever, and no attempt to repair or promise to repair or improve the equipment covered by this contract by any representative of Drott shall waive any consideration of the contract or change or extend this warranty in any manner whatsoever.
- 4. Engines, tires, batteries, electrical and similar equipment are covered only by the standard warranty of the manufacturer of such equipment.

DMC 1248-1

NOVEMBER 1, 196

#### 40 YR-40ER NOMENCLATURE



#### CRUZ-AIR (lower structure) (items 1 thru 15)

- 1. Right rear outrigger
- 2. Hydraulic oil reservoir (right side)
- 3. Optional front outrigger location (both sides)
- 4. Battery location (under cover)
- 5. Engine air cleaner
- 6. Engine compartment
- 7. Light mounting bracket Right Side (folds back to frame)
- 8. Hydraulic oil cooler
- 9. Light mounting bracket Left Side (folds back to frame)
- 10. Engine instrument panel (stop controls added for GMC engines)
- 11. Front driving and steering axle
- 12. Optional front outrigger location (both sides)
- 13. Fuel tank gasoline or diesel (with ladder attached)
- 14. Rear driving axle
- 15. Left rear outrigger

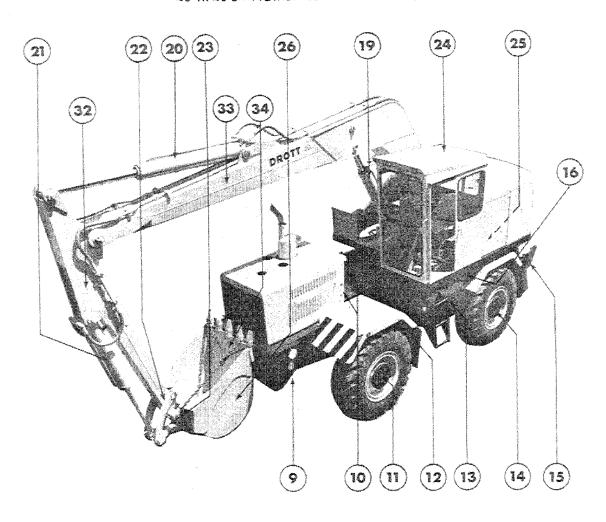
#### TURNTABLE BEARING LOCATION (item 16)

#### TURNTABLE (items 17 thru 26)

17. Shroud, and counterweight area

(CONTINUED)

# 40 YR-40 ER NOMENCLATURE (CONT'D)



- 18. Swing speed reduction, and swing motor location
- 19. Boom hoist cylinder
- 20. Boom crowd cylinder
- 21. Tool cylinder
- 22. Tool levers
- 23. Tool link
- 24. Operator's compartment with controls
- 25. Main hydraulic valve location
- 26. Tool (back hoe bucket shown)

## "Y" (YUMBO) BOOM (items 27 thru 31)

- 27. "Y" Main boom
- 28. "Y" Boom support
- 29. "Y" Tool boom
- 30. "Y" Tool boom extension
- 31. "Y" Boom adjustable link

## "E" (EXCAVATOR) BOOM (items 32 thru 34)

- 32. "E" Boom dipper stick
- 33. "E" Main boom
- 34. "E" Boom carry chain



# 40 R CRUZ-AIR INTRODUCTION TO SERVICE MANUAL

This book has been prepared as a guide to the mechanic in servicing the DROTT CRUZ-AIR. It is intended to tell the mechanic how the machine works and to help him understand why a malfunction has occurred as well as to tell him how to repair the machine. This is especially true of sections dealing with Hydraulic System Repair.

Sections A through E of this manual deal with the mechanical components of the machine and their controls. Trouble-shooting information for a given component will be found in the section in which it is described.

Sections F through H deal with the Hydraulic System of the machine. These sections contain no overhaul or repair information, but are intended to help the mechanic in another way, by describing how a hydraulic system works, what the components of the Cruz-air hydraulic system are, how to keep those components in good repair, and how to pinpoint hydraulic problems. This manual is designed to help you prevent trouble, rather than repair damage that has already been done.

Overhaul Instructions begin with section J; if you care for your machine properly, you may never need them.

Thanks for your reading.

Please click here to download complete manual instantly.

And can also choose other manuals.

Feel free --->write to me with any questions.

Our service email:

manuals007@hotmail.com