SM-575
C500 Y180-200-225S-225L
250S-250L-300S-300L-350



CLARK Technical Publications
Lexington, KY
40508

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Electrical

- 12-Volt Negative Ground System
- 55-Amp Alternator with Regulator
- Wire Harnes: Ignition Module & Patch. Refer to Wire Schematic on following pages.
- Fuses: 15 Amp

Camshaft and Related Parts

- **Crankshaft**

  Type: 5 Bearing Shell Molded

  Material: Special Cast Iron Alloy, Induction Hardened

- Journal Diameter:

  2.1238 / 2.1248 in. (53.945/53.97mm)

- Camlift -

  Intake: 0.2526 in. (6.416 mm)

  Exhaust: 0.2780 in. (7.061 mm)

- **Bearings**

  Type: Replaceable Insert

  Material: Steel Backed Aluminum Lead Overplate

  Total Effective Length: 2.90 in. (73.66 mm)

  Total Effective Area: 17.57 $in.^2$ (113.36 cm^2)

- Camshaft Drive:

  Type: Silent Chain

  Sprocket Material: Die Cast Alumninum with Nylon Overlay

Crankshaft and Related Parts

- **Crankshaft**

  Type: 5 Bearing Cast Nodular Iron

  Length Overall. 29.146 in. (740.308 mm)

- Crankpin Journals -

  Diameter:

  2.4992 / 2.5000 in. (63.480/63.50mm)

- Crankpin Journals -

  Length:

  2.013 / 2.017 in. (51.130/51.23mm)

- Main Journals -

  Diameter:

  2.9994 / 3.0002 in. (76.185/76.20mm)

  Length:

  # 1 1.132 / 1.172 in (28.753/29.76mm)

  #2&4 1.120 / 1.130 in. (28.448/28.70mm)

  # 3 1.124 / 1.126 in. (28.550/28.60mm)

  # 5 1.263 / 1.321 in. (32.80/33.553 mm)

- Journal Overlap: 0.824 in. (20.930 mm)

- Crankshaft Sprocket:

  Material: Sintered Iron

- Vibration Damper:

  Type: Rubber Floated

- **Main Bearings**

  Type: Replaceable Insert Select Fit

  Material: Steel Backed Overplated Copper Lead

- Effective Length:

  #1, 2, 4 & 5 0.746 in. (18.948 mm)

  # 3 0.66 in. (16.764 mm)

  Total Length: 3.644 in. (92.558 mm)

  Total Effective Surface Area.

  34.34 $in.^2$ (220.916 mm^2)

Pistons, Rods and Bearings

- **Connecting Rods**

  Type: I-Beam

  Material: Steel Backed Overplated Copper Lead

- Length (Center-to-Center):

  6.6035 / 6.6065 in. (167.729 / 167.805 mm)

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MAIN DIFFERENTIAL GEARS - ROTATING RESISTANCE

	PAGE
Specification: 50 lb-ft (68 N.m) torque applied to one side gear	41

RING GEAR - BACKLASH

Specification: Ring gears that have a pitch diameter of less than 17 inches (431.8 mm) Range - .008 to .018 inch (.20 to .46 mm) .012 inch (.30 mm) for a new gear set Ring gears that have a pitch diameter of 17 inches (431.8 mm) or greater Range - .010 to .020 inch (.25 to .51 mm) .015 inch (.38 mm) for a new gear set **Adjustment:** Backlash is controlled by the position of the ring gear. Change backlash within specifications to get a good tooth contact pattern. To increase backlash, move the ring gear away from the drive pinion To decrease backlash, move the ring gear toward the drive pinion	45

RING GEAR - RUNOUT

Specification: .008 inch (.20 mm) maximum	45

SENSOR SWITCH - INSTALLATION (CARRIERS WITH DIFF. LOCK ONLY)

Specification: Shift the differential to the locked position. Tighten the sensor switch into the carrier until the test light comes on. Tighten the sensor switch one additional turn and tighten lock nut to correct torque value.	58 Steps 13&14

SPIGOT BEARING - PEENING ON THE DRIVE PINION

Specification: Apply 3,000 kg (6,614 lb) load on a 10 mm or .375 inch ball. Peen the end of the drive pinion at a minimum of five points.	28-31
Softening of the pinion stem end by heating may be required.	30

THRUST SCREW OR THRUST BLOCK - CLEARANCE

Specification: .025 to .045 inch (.65 to 1.14 mm) OR Loosen the thrust screw 1/2 turn after tightening the thrust screw, hand tight, against the ring gear	50

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GROUP 34

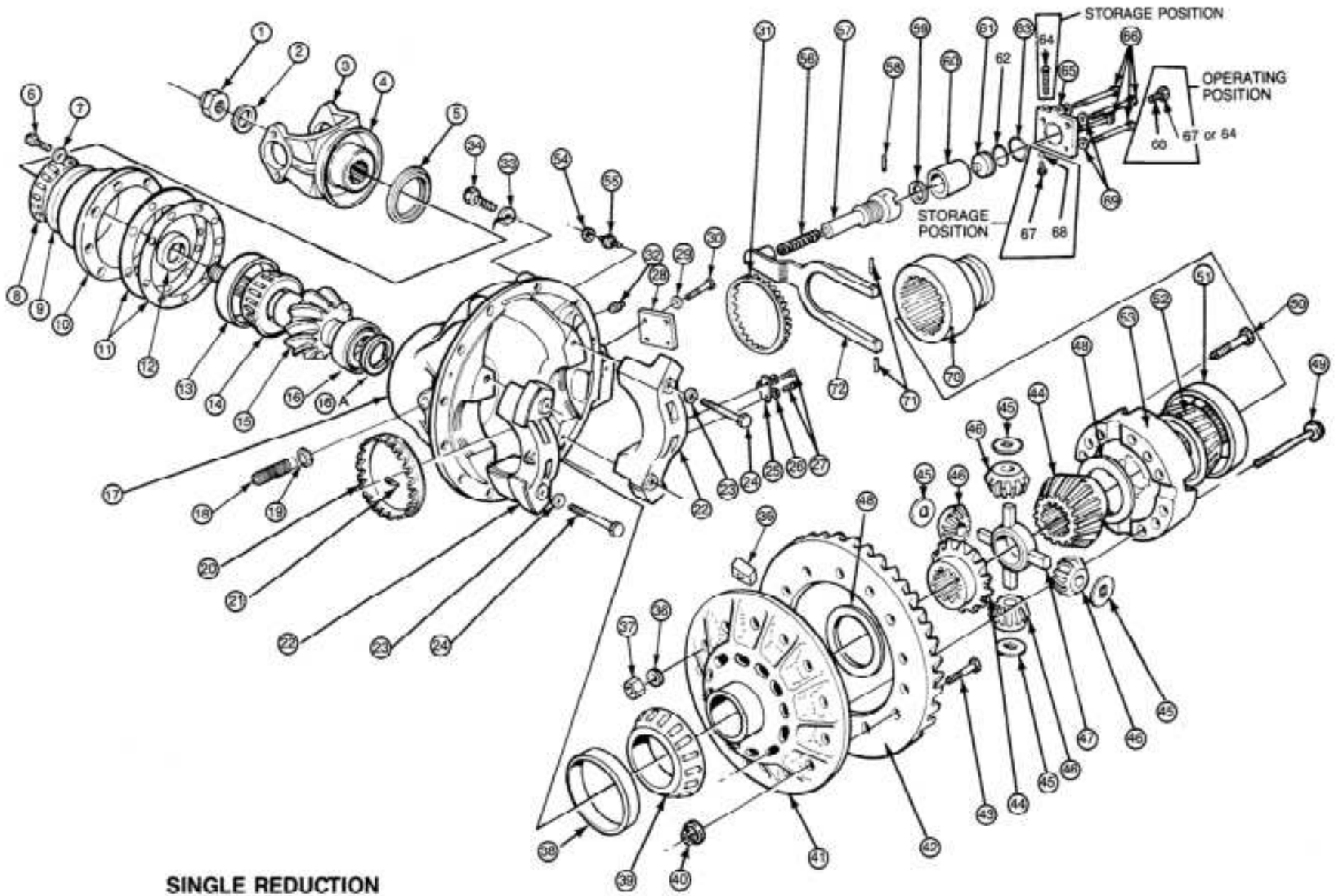
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GROUP 34-UPRIGHT, CARRIAGE AND FORKS

Troubleshooting ..... Section 1

Fork Removal and Inspection ..... Section 2

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SINGLE REDUCTION DIFFERENTIAL CARRIER

NOTE DIFFERENTIAL CARRIERS WITHOUT DIFF. LOCK DO NOT HAVE PARTS 54 THROUGH 72. SOME OF THESE CARRIERS HAVE A COVER AND PLUG INSTALLED OVER THE AIR CYLINDER OPENING AND SENSOR SWITCH HOLE IN THE CARRIER.

ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	Nut - Drive Pinion	11	Shims
2	Washer - Drive Pinion*	12	Spacer - Pinion Bearing
3	Input Yoke* or Flange*	13	Bearing Cup - Pinion Inner
4	Deflector	14	Bearing Cone - Pinion Inner
5	Oil Seal	15	Drive Pinion
6	Capscrew - Bearing Cage	16	Spigot Bearing
7	Washer	16A	Snap Ring
8	Bearing Cone - Pinion Outer	17	Carrier
9	Bearing Cup - Pinion Outer	18	Thrust Screw*
10	Bearing Cage - Drive Pinion	19	Jam Nut* - Thrust Screw*

*Some Rockwell Carriers do not have the parts described.

ITEM	DESCRIPTION
20	Adjusting Ring - L.H.
21	Cotter* or Pin*
22	Caps - Differential Bearing
23	Washers
24	Capscrews - Diff. Bearing Cap
25	Lock Plate* - Adjusting Ring
26	Washers* - Lock Plate*
27	Capscrews* - Lock Plate*
28	Cover* - Air Cylinder Opening
29	Washers* - Cover*
30	Capscrews* - Cover*
31	Adjusting Ring - R.H.
32	Plug* - Oil Fill Hole (carrier)
33	Washer* - Capscrew/Plug*
34	Capscrew/Plug* - Sensor Hole
35	Thrust Block*
36	Washers* - Differential Case
37	Nuts* - Differential Case
38	Bearing Cup - Differential L.H.
39	Bearing Cone - Differential L.H.
40	Nuts* - Ring Gear and Case Half
41	Case Half - Flange
42	Ring Gear
43	Bolts* or Rivets* - Ring Gear and Case Half
44	Side Gears - Differential
45	Thrust Washers - Differential Pinion
46	Pinions - Differential
47	Spider - Differential
48	Thrust Washers - Differential Side Gear
49	Capscrews - Differential Case
50	Bolts* - Differential Case
51	Bearing Cup - Differential R.H.
52	Bearing Cone - Differential R.H.
53	Case Half - Plain

THE FOLLOWING PARTS ARE FOR DIFF. LOCK CARRIERS ONLY

54	Lock Nut - Sensor Switch
55	Sensor Switch
56	Spring - Shift Shaft
57	Shift Shaft
58	Pin - Spring Retaining
59	Washer* or Silastic* - Air Cylinder
60	Tube - Air Cylinder
61	Piston
62	O-Ring - Piston
63	Copper Gasket - Cylinder Cover
64	Capscrew - Manual Actuation
65	Cylinder Cover
66	Capscrews - Cylinder Cover
67	Plug - Cylinder Cover
68	Gasket - Cover Plug
69	Washers - Cylinder Cover
70	Shift Collar
71	Pins - Shift Fork
72	Shift Fork

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