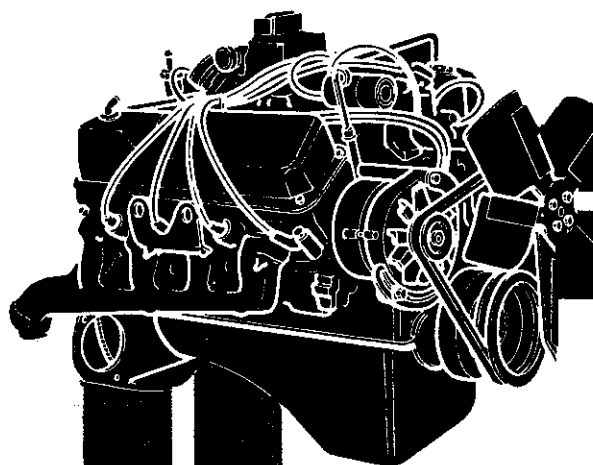




SERVICE MANUAL

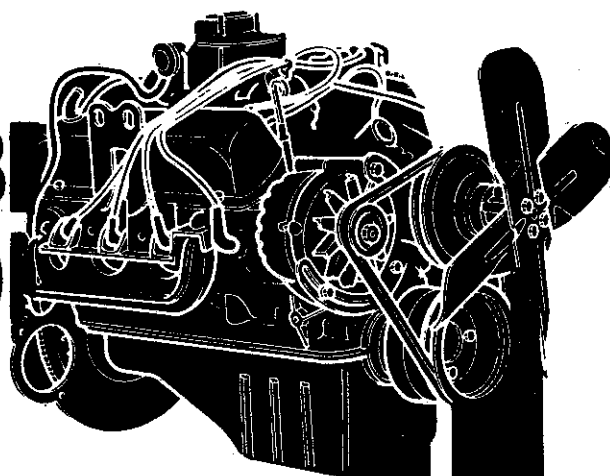
*RV 12 YC
Plus - 94d
RS 94C - 295*



**CSG-850
(302 CID)**



**WSG-858
(351 CID)**



INDUSTRIAL AND MARINE ENGINES

Introduction

This Service Manual provides the Service technician with information for the proper servicing of the Ford CSG-850 and WSG-858 Industrial and Marine Engines.

In general, this manual covers the servicing of the engine and associated standard equipment. In many cases, engines are supplied with accessories and equipment that are unique to the application. If service information is ever required on such unique accessories or equipment it is suggested that the Industrial Engine Operations of Ford Motor Company be contacted. The proper information will either be forwarded or the Service Technician will be advised where it can be obtained.

The information in this manual is grouped in sections according to the type of work being performed. The various sections are indicated in the Index. In addition, each section is subdivided to include topics such as diagnosis and testing, cleaning and inspection, overhaul, removal and installation procedures, disassembly and assembly procedures, and service specifications.

Ford Motor Company
Power Products Division
19855 W. Outer Drive
Dearborn, MI 48124

The descriptions and specifications contained in this manual were in effect at the time the book was released for printing. Ford Motor Company reserves the right to discontinue models at any time, or change specifications or design, without notice and without incurring obligation.

IMPORTANT SAFETY NOTICE

Appropriate service methods and proper repair procedures are essential for the safe, reliable operation of all engines as well as the personal safety of the individual doing the work. This Service Manual provides general directions for accomplishing service and repair work with tested, effective techniques. Following them will help assure reliability.

There are numerous variations in procedures, techniques, tools, and parts for servicing engines, as well as in the skill of the individual doing the work. This Manual cannot possibly anticipate all such variations and provide advice or cautions as to each. Accordingly, anyone who departs from the instructions provided in this Manual must first establish that he compromises neither his personal safety nor the engine integrity by his choice of methods, tools or parts.

DECIMAL AND METRIC EQUIVALENTS

Fractions	Decimal In.	Metric MM.	Fractions	Decimal In.	Metric MM.
1/64	.015625	.39688	33/64	.515625	13.09687
1/32	.03125	.79375	17/32	.53125	13.49375
3/64	.046875	1.19062	35/64	.546875	13.89062
1/16	.0625	1.58750	9/16	.5625	14.28750
5/64	.078125	1.98437	36/64	.578125	14.68437
3/32	.09375	2.38125	19/32	.59375	15.08125
7/64	.109375	2.77812	39/64	.609375	15.47812
1/8	.125	3.1750	5/8	.625	15.87500
9/64	.140625	3.57187	41/64	.640625	16.27187
5/32	.15625	3.96875	21/32	.65625	16.66875
11/64	.171875	4.36562	43/64	.671875	17.06562
3/16	.1875	4.76250	11/16	.6875	17.46250
13/64	.203125	5.15937	45/64	.703125	17.85937
7/32	.21875	5.55625	23/32	.71875	18.25625
15/64	.234375	5.95312	47/64	.734375	18.65312
1/4	.250	6.35000	3/4	.750	19.05000
17/64	.265625	6.74687	49/64	.765625	19.44687
9/32	.28125	7.14375	25/32	.78125	19.84375
19/64	.296875	7.54062	51/64	.796875	20.24062
5/16	.3125	7.93750	13/16	.8125	20.63750
21/64	.328125	8.33437	53/64	.828125	21.03437
11/32	.34375	8.73125	27/32	.84375	21.43125
23/64	.359375	9.12812	55/64	.859375	21.82812
3/8	.375	9.52500	7/8	.875	22.22500
25/64	.390625	9.92187	57/64	.890625	22.62187
13/32	.40625	10.31875	29/32	.90625	23.01875
27/64	.421875	10.71562	59/64	.921875	23.41562
7/16	.4375	11.11250	15/16	.9375	23.81250
29/64	.453125	11.50937	61/64	.953125	24.20937
15/32	.46875	11.90625	31/32	.96875	24.60625
31/64	.484375	12.30312	63/64	.984375	25.00312
1/2	.500	12.70000	1	1.00	25.40000

METRIC-ENGLISH CONVERSION TABLE

Multiply	by	to get equivalent number of:	Multiply	by	to get equivalent number of:
LENGTH					
Inch	25.4	millimetres (mm)	Foot/sec ²	0.304 8	metre/sec ² (m/s ²)
Foot	0.304 8	metres (m)	Inch/sec ²	0.025 4	metre/sec ²
Yard	0.914 4	metres	TORQUE		
Mile	1.609	kilometres (km)	Pound-inch	0.112 98	newton-metres (N·m)
AREA					
Inch ²	645.2	millimetres ² (mm ²)	Pound-foot	1.355 8	newton-metres
	6.45	centimetres ² (cm ²)	POWER		
Foot ²	0.092 9	metres ² (m ²)	Horsepower	0.746	kilowatts (kW)
Yard ²	0.836 1	metres ²	PRESSURE OR STRESS		
VOLUME					
Inch ³	16 387.	mm ³	Inches of water	0.249 1	kilopascals (kPa)
	16.387	cm ³	Pounds/sq. in.	6.895	kilopascals
Quart	0.016 4	litres (l)	ENERGY OR WORK		
Gallon	0.946 4	litres	BTU	1 055.	joules (J)
Yard ³	3.785 4	litres	Foot-pound	1.355 8	joules
	0.764 6	metres ³ (m ³)	Kilowatt-hour	3 600 000.	joules (J = one W's)
MASS					
Pound	0.453 6	kilograms (kg)	LIGHT		
Ton	907.18	kilograms (kg)	Foot candle	1.076 4	lumens/metre ² (lm/m ²)
Ton	0.907	tonne (t)	FUEL PERFORMANCE		
FORCE					
Kilogram	9.807	newtons (N)	Miles/gal	0.425 1	kilometres/litre (km/l)
Ounce	0.278 0	newtons	Gal/mile	2.352 7	litres/kilometre (l/km)
Pound	4.448	newtons	VELOCITY		
TEMPERATURE					
Degree Fahrenheit	(°F-32) ÷ 1.8	degree Celsius	Miles/hour	1.609 3	kilometres/hr. (km/h)

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5.0L AND 5.8L INDUSTRIAL AND MARINE ENGINES

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Should your engine require service, parts, and technical information, contact the Ford Power Products Distributor in your state as listed.

FORD POWER PRODUCTS DISTRIBUTORS

STATE & PHONE

Alabama

M & I Engine Co., Inc. (205) 626-8080

Alaska

KEM Equipment, Inc. (907) 562-1383

Arizona

Sanderson Ford (602) 842-8680

Arkansas

Dealers Industrial Power Co. (901) 794-8584
OK Ford Power Products (405) 235-4415

California

Power House Ford Engines, Inc. (805) 327-7835
Power House Ford Engines, Inc. (714) 540-6855
Tuban Industrial Products Co., Inc. (415) 968-2431
TIPCO South (209) 264-1774

Colorado

Colorado Power Systems (303) 293-2224
Industrial Power Systems, Inc. (307) 265-1166

Connecticut

Northeast Ford Engines, Inc. (617) 525-3411

Delaware

Engine Distributors, Inc. (609) 365-8631

District of Columbia

Engine Distributors, Inc. (301) 987-4740

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Highway Equipment & Supply Co. (904) 783-1630
Highway Equipment & Supply Co. (305) 843-6310
Highway Equipment & Supply Co. (305) 843-6310
Highway Equipment & Supply Co. (813) 621-9634
M & I Engine Co., Inc. (205) 626-8080

Georgia

Cummins South, Inc. (912) 888-6210
Cummins South, Inc. (404) 344-0885
Cummins South, Inc. (404) 722-8825
Cummins South, Inc. (404) 277-1144
Cummins South, Inc. (912) 232-5565
Highway Equipment & Supply Co. (305) 843-6310

Hawaii

Power House Ford Engines, Inc. (714) 540-6855

Idaho

KEM Equipment, Inc. (206) 784-2372
KEM Equipment, Inc. (503) 692-5012

Illinois

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University Ford, Inc. (309) 685-1021
Midwestern Power Products Co. (515) 278-5521
Cummins Missouri, Inc. (618) 244-1232

Indiana

Illini Power Products (312) 462-7280
Power Unlimited, Inc. (502) 637-3628

Iowa

Midwestern Power Products Co. (515) 278-5521
Anderson Industrial Engines Co., Inc.
(402) 558-8700

Kansas

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Power Unlimited, Inc. (615) 525-1193

Louisiana

M & L Engine Company (504) 355-7716
M & L Engine Company (318) 837-2763
M & L Engine Company (504) 876-2280
M & L Engine Company (504) 885-8932

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Maryland

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Massachusetts

Northeast Ford Engines, Inc. (617) 525-3411

Michigan

Engine Center, Inc. (313) 399-0002
Engine Power Inc. (414) 544-1226

Minnesota

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M & L Engine Company (504) 876-2280

Missouri

Cummins Missouri, Inc. (314) 449-3711
Kansas City Power Products, Inc. (816) 421-7411
Cummins Missouri, Inc. (314) 472-0303
Cummins Missouri, Inc. (314) 389-5400
Cummins Missouri, Inc. (314) 429-0095

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New York

Pitt Auto Electric Co.
Industrial Engine Division (412) 766-5513
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North Carolina

Triangle Ford Engines, Inc. (919) 682-9336

North Dakota

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Graham Ford, Inc. (614) 464-6006
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Ford Industrial Engine Division (806) 373-3793

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South Dakota

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Dealers Industrial Power Co. (901) 794-8584

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Ford Industrial Engine Division (806) 373-3793
Cummins Southern Plains, Inc.
Ford Industrial Engine Division (512) 831-4231
Cummins Southern Plains, Inc.
Ford Industrial Engine Division (512) 289-0700
Cummins Southern Plains, Inc.
Ford Industrial Engine Division (817) 624-2107
Cummins Southern Plains, Inc.
Ford Industrial Engine Division (713) 675-7421
Cummins Southern Plains, Inc.
Ford Industrial Engine Division (214) 321-5555