



**M-100**  
**100-B**

motor graders

parts catalog

Form 70680409 English

## AVOID ACCIDENTS

Most accidents, whether they occur in industry, on the farm, at home or on the highway, are caused by the failure of some individual to follow simple and fundamental safety rules or precautions. For this reason **MOST ACCIDENTS CAN BE PREVENTED** by recognizing the real cause and doing something about it before the accident occurs.

Regardless of the care used in the design and construction of any type of equipment there are many conditions that cannot be completely safeguarded against without interfering with reasonable accessibility and efficient operation.

A careful operator is the best insurance against an accident. The complete observance of one simple rule would prevent many thousand serious injuries each year. That rule is:

***Never attempt to clean, oil or adjust a machine while it is in motion.***

NATIONAL SAFETY COUNCIL

### WARNING

On machines having hydraulically, mechanically, and/or cable controlled equipment (such as shovels, loaders, dozers, scrapers, etc.) be certain the equipment is lowered to the ground before servicing, adjusting and/or repairing. If it is necessary to have the hydraulically, mechanically, and/or cable controlled equipment partially or fully raised to gain access to certain items, be sure the equipment is suitably supported by means other than the hydraulic lift cylinders, cable and/or mechanical devices used for controlling the equipment.

SUPPLEMENT NO. 1

PARTS CATALOG FORM 0680409-0

M100 GRADER

(7-72)

**ATTENTION:** Insert this sheet into the front of publication as record of receipt. Replace or add pages in the publication according to instructions below.

Additional copies of this supplement are available. Please direct your request to *Allis-Chalmers, Technical Publications Department, Construction Machinery Division, Springfield, Illinois, 62708, U.S.A.*

**REASON:** This supplement is issued to provide service for graders serial No. 67S06589 and up with "Bosch-Germany" Fuel Injection Pump.

19 (No change)	57B (Added)	67 (Revised)	*113 (Revised March 1972)
20 (Revised)	58 (No change)	67A (Added)	*114 (Revised March 1972)
52A (Added)	61 (Revised)	67B (Added)	181 (No change)
52B (Added)	61A (Added)	68 (No change)	*182 (Revised March 1972)
57 (Revised)	61B (Added)	68 (Revised)	*183 (Revised March 1972)
57A (Added)	62 (Revised)	68A (Added)	184 (No change)

\* Previously issued pages

Also make the following changes: (Changes are underlined)

PAGE	ITEM	PART NO.	QTY	DESCRIPTION
14	1	4359358-1		ENGINE ASSY. (Standard on graders unit #05130 thru #05157; also #05190 thru #06588)
	1 Add:	4359736-8		ENGINE ASSY. ("Bosch-Germany" Injection Pump. Turbocharged)(Standard on graders unit #06589 and up)
17	20	4354635-7	- 1	COVER (Used prior to engine #11-19309)
	20 Add:	4359668-3	- 1	COVER, valve lifter, front (Effective with engine #11-19309)
18	21	4335456-2	6 6	WASHER
	22	4335455-4	6 6	BOLT
	22 Add:	4359683-2	- 3	BOLT, valve lifter cover, front (Effective engine #11-19309)
31	4	4359193-2	6	GUIDE, exhaust (Change part No. to <u>4359192-4</u> )
	5	4359192-4	6	GUIDE, intake (Change part No. to <u>4359193-2</u> )

NOTICE  
These changes are included in this copy

(Continued)

PAGE	ITEM	PART NO.	QTY.	DESCRIPTION
35	7	4347511-0	2	BRACKET
		0919287-3	6	CAPSCREW
		0904206-0	6	LOCKWASHER
	7 Add:	4359701-2	2	BRACKET, valve lifter
		4255393-2	6	BOLT, 3/8"NC x 1-3/4"
8	4347832-0	4	DOWEL (Engines prior to #10-14971 and #11-19282)	
53	USAGE: Graders serial No. 1209 thru No. 5000; Also graders serial No. 67S05001 thru 67S06588			
71	In heading: ** Graders serial No. 1209 thru No. 5000; also graders serial No. 67S05001 and up.			
	3	081760	1 1	BRACKET (Gaders prior to unit #6589)
	3 Add:	682325	- 1	BRACKET, operating lever stop (Gaders unit #6589 and up)
72	24	650447	- 1	BELLCRANK ASSY. (Gaders prior to unit #6589)
	24 Add:	679778	- 1	BELLCRANK ASSY., lower rear (Includes item 25) (Gaders unit #6589 and up)
	26	650436	- 1	ROD (Gaders prior to unit #6589)
	26 Add:	679793	- 1	ROD, throttle control, rear (vertical)(Gaders unit #6589 and up)
	27	650445	- 1	ROD (Gaders prior to unit #6589)
	27 Add:	679784	- 1	ROD, throttle control, rear (horizontal)(Gaders unit #6589 and up)
	Add: 29A	4393286	- 1	LEVER ASSY., throttle control (Gaders unit #6589 and up)(Not illustrated)
179	1	0675684-5	1	ASSY. (See page 182 for parts)
	10	0675682-9	1	ASSY. (See page 183 for parts)
253 Add:	USAGE: Graders prior to Serial No. 67S06589 ** Graders serial No. 1600 thru 67S06589 also graders serial No. 67S05001 and up.			

NOTICE  
 These changes are  
 included in this copy

ADDITIONAL PUBLICATIONS AVAILABLE  
FOR  
MODEL M 100 MOTOR GRADER  
(See NOTE below)

DESCRIPTION	SERIAL NO.	FORM NO.			
		ENGLISH	ESPAÑOL (Spanish)	FRANÇAIS (French)	PORTUGUES (Portuguese)
<u>PARTS CATALOGS</u>					
Injection Pump (American Bosch) . . . . . Pr. S/N 1209		70696878			
Injection Pump (Roosa-Master). . . . . S/N 1209 thru 67S06588		70685399			
Injection Pump (Robert Bosch) . . . . . S/N 67S06589 - up		70698576			
Motor Grader . . . . . All		70680409			
<u>OPERATORS MANUALS</u>					
M100 . . . . . Pr. S/N 1001		70633816			
M100 (Series B). . . . . S/N 1001 - up		70681824	70673197	70680447	70679488
<u>SERVICE MANUALS</u>					
Electrical System . . . . . All		70696657	70681718	70688844	
Engine (10000 & 11000). . . . . All		70645121	70650410	70650412	70650411
Engine Clutch & Clutch Brake . . . . . All		70646138			
Front Wheel, Axle & Wheel Lean. . . . . All		70651543			
Fuel Injection Nozzles. . . . . All		70682797			
Hydraulic System . . . . . S/N 1001 - up		70651549			
Injection Pump (American Bosch) . . . . . Pr. S/N 1209		70657398			
Injection Pump (Roosa-Master). . . . . S/N 1209 thru 67S06588		70656820			
Injection Pump (Robert Bosch) . . . . . S/N 67S06589 - up		70681649			
Moldboard, Drawbar, Circle, Scarifier & Gear Cases . . . . . All		70651545			
Power Control Box, Vertical Drive & Power Take-off . . . . . All		70677883			
Rear Wheels & Brakes . . . . . All		70657712			
Tandems & Rear Axle . . . . . All		70641623			
Transmission & Drive Shaft U-Joint . . . . . All		70693862			
Turbocharger (TE-06). . . . . Pr. S/N 5190 excl. 5130 thru 5157		70677064	70678570	70678727	70679482
Turbocharger (TO-4) . . . . . S/N 5130 - up excl. 5158 thru 5189		70687805	70679633	70679635	70679634
* Complete Service Manual. . . . .		70682501	70678728	70681717	
* Engine and Turbocharger not included in Foreign Translations; Fuel Injection Pump and Nozzles not included in English.					

NOTICE

CONSULT ALLIS-CHALMERS CONSTRUCTION MACHINERY DEALER FOR PUBLICATIONS.

SEE CONSTRUCTION MACHINERY TECHNICAL PUBLICATIONS INDEX (FORM 70658800 ) FOR ALL AVAILABLE PUBLICATIONS.

PUBLICATIONS INDEX (FORM 70658800 ) IS AVAILABLE FREE FROM YOUR DEALER.

## IMPORTANT

All parts listed herein, which have no specific usage indicated, are applicable to all models. Those parts which are used only on specific models are so indicated.

Attaching parts such as bolts, nuts, rivets, screws, washers, etc., are indented immediately following the parts which they attach.

Parts indicated with a square (□) are also available in packaged sets. Refer to section titled "PACKAGED PARTS".

The terms "right" and "left" used throughout this parts catalog are determined by facing the direction of forward travel.

The engine is mounted unconventionally with the flywheel toward the front of the machine, but all engine parts are designated in respect to the engine as it would be installed in a conventional machine with the flywheel to the rear.

## INSTRUCTIONS FOR ORDERING PARTS

At the time this parts catalog was published the listed part numbers were current. It is our policy to constantly improve our machines and therefore, part numbers and design may change. When ordering parts, verify part numbers through your dealer's parts catalog which is up to date with all latest part numbers.

Order parts from the dealer covering the local territory.

**ALWAYS GIVE THE MODEL AND SERIAL NUMBER OF MACHINE. IF PARTS ARE FOR AN ASSEMBLY WHICH HAS A MODEL AND/OR SERIAL NUMBER (SUCH AS ENGINE ASSEMBLY, PUMP ASSEMBLY), ALSO INCLUDE THIS INFORMATION.**

To obtain parts promptly, give part name and part number.

Give post office address, town, county and state where parts are to be shipped. Also specify whether material is to be shipped by freight, express or parcel post.

Confirm all telephone or telegraph orders in writing.

Parts for standard motor accessories such as generators and starting motors should be ordered from authorized Service Stations maintained by manufacturers of these units throughout the country.

No credit will be allowed on parts unless they are returned to the dealer from whom they were purchased; from there they will be returned, at the customer's expense, to the factory for inspection.

Unless claims for shortages or errors are made immediately upon receipt of goods, they will not be considered.

When broken goods are received, a full description of the damage should be made by the carrier agent on the freight bill. If this description is insisted upon, full damage can always be collected from the transportation company.

No responsibility is assumed for delay or damage to merchandise while in transit. Our responsibility ceases upon delivery of shipment to the transportation company from whom a receipt is received showing that shipment was in good condition when delivered to them; therefore, claims (if any) should be filed with the transportation company and not with Allis-Chalmers.

The right is reserved to change the construction or material of any parts where it seems desirable to do so without incurring the obligation of installing such changes on units already delivered.

*(Specifications and design subject to change without notice)*

## MODEL IDENTIFICATION

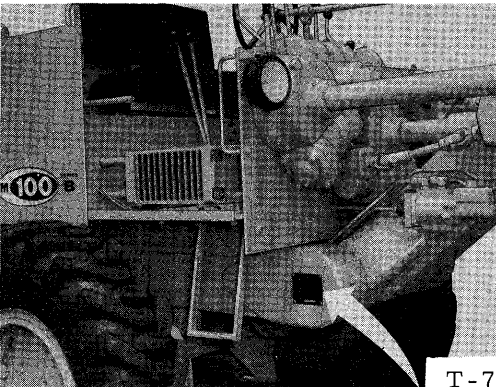
The symbol listed below is stamped in front of the model serial number on each unit.

MODEL SYMBOL	ENGINE MODEL	DESCRIPTION
M100	10000	Motor Grader naturally - aspirated engine, grader serial No. 101 thru 1000
M100	11000	Motor Grader, special equipment turbo-charged engine, graders prior to serial No. 5000
M100 (Series B)	10000	Motor Grader, naturally - aspirated engine, Graders serial No. 1001 thru 5000.
M100 (Series B)	11000, serial No. 11-16145 and up	Motor Grader, standard turbocharged engine. Graders serial No. 67S05001 and up.

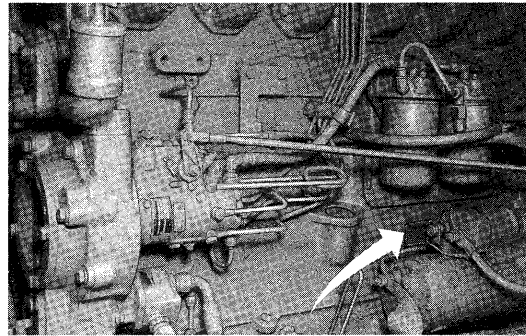
## RECORD YOUR SERIAL NUMBERS BELOW

MODEL SERIAL NUMBER \_\_\_\_\_

ENGINE SERIAL NUMBER \_\_\_\_\_



T-73690



T-73691

### MODEL SERIAL NUMBER

NOTE: Effective in 1969, the model serial numbering system was changed. Under the prior system models were numbered consecutively in numerals only. Thereafter models are identified by an 8 character combination of letters and numerals.

**\*SERIAL NUMBER**, consisting of all 8 characters must always be submitted for positive identification of your machine. This Point Cannot Be Over-emphasized.

GRADER MODEL	*SERIAL NO.	
	PRODUCT CODE	UNIT NO.
M100 Series B	67S	05001

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	70920388	12-3/4		70920806	A		70920806	A	NONE		74357430

PACKAGED PARTS

PACKAGE NUMBER	DESCRIPTION
74359410	GASKET KIT, cylinder head
4	70923574 O-RING, water by-pass tube (Discard)
4	70923813 O-RING, water manifold tube
1	74300145 GASKET, water outlet elbow
2	74336148 GASKET, rocker cover
4	74336182 GASKET, water manifold
1	74336263 GASKET, thermostat housing
1	74336266 GASKET, water elbow (Discard)
2	74337764 GASKET, valve lifter cover
6	74346138 GASKET, intake manifold
2	74348133 GASKET, breather tube
1	74359029 GASKET ASSY., front cylinder head
1	74359030 GASKET ASSY., rear cylinder head
6	74359355 GASKET, exhaust manifold
6	74378031 GASKET, injection nozzle
74359120	GASKET KIT, intermediate, cylinder block (Graders prior to #1209)
1	70923589 O-RING, fan drive (Discard. Not for grader)
1	70923718 O-RING, oil filter
1	70923814 O-RING, hydraulic pump drive
1	70923815 O-RING, camshaft hole plug
2	70667252 GASKET, oil drain plug
2	74113897 GASKET, oil regulating valve nut
1	74335056 GASKET, water pump volute
3	74335577 GASKET, oil filter hose
1	74335578 GASKET, oil filter hose
1	74335712 GASKET, cover plate
1	74336345 GASKET, cover plate
1	74336897 RING, sealing, flywheel housing to crankcase
1	74346169 GASKET, oil pipe
2	74346441 GASKET, oil pipe (Discard. Not for grader)
1	74346456 GASKET, water inlet elbow
1	74346744 GASKET, water pump
1	74347031 GASKET, water by-pass flange
1	74347120 GASKET, oil filler hole cover
1	74348126 GASKET, timing gear cover
1	74348136 GASKET, timing gear housing
1	74348184 GASKET, oil cooler water outlet
1	74348185 GASKET, oil cooler water inlet
2	74348215 GASKET, oil pipe
1	74348218 GASKET, oil pipe
1	74349011 GASKET, cover plate
1	74362458 GASKET, oil pump cover (Discard. Not for grader)
1	74371289 GASKET, oil pan cover
2	74373069 GASKET, oil pan cover (Discard. Not for grader)
74359122	GASKET KIT, intermediate, cylinder block (Graders #1209 and up)
2	70667252 GASKET, oil drain plug
2	70923376 O-RING, flywheel housing dowel
1	70923589 O-RING, fan drive (Discard)
1	70923814 O-RING, hydraulic pump drive
1	70923815 O-RING, camshaft hole plug
1	70923816 O-RING, flywheel to crankshaft (Discard)
1	70923820 O-RING, fan drive
1	70924139 O-RING, injection pump mounting cover
1	74335056 GASKET, water pump volute
1	74336436 GASKET, oil drain flange
1	74336676 GASKET, timing hole cover
1	74336897 RING, sealing, flywheel housing to crankcase
1	74339150 GASKET, filter head to block (Discard)
1	74339151 GASKET, oil cooler to block (Discard)
1	74346169 GASKET, oil pipe
2	74346441 GASKET, oil pipe (Discard)
1	74346456 GASKET, water inlet pipe

(Continued)

PACKAGED PARTS (Continued)

PACKAGE NUMBER	DESCRIPTION
74359122	GASKET KIT, intermediate, cylinder block (Graders #1209 and up)(Cont'd)
1	74346744 GASKET, water pump
1	74347031 GASKET, water by-pass flange
1	74347120 GASKET, timing hole cover
1	74348126 GASKET, timing gear cover } Discard
1	74348136 GASKET, timing gear housing
1	74348184 GASKET, filter head to block
1	74348185 GASKET, oil cooler water inlet
2	74348215 GASKET, oil pipe
1	74348218 GASKET, oil pipe
1	74354163 GASKET, timing gear cover
1	74354304 GASKET, fan hose bracket (Discard)
1	74354415 GASKET (Discard)
1	74362458 GASKET, oil pump cover (Discard)
2	74373069 GASKET, oil pan cover (Discard)
-----	GASKET KIT, turbocharger (See TURBOCHARGER section)
70651180	INSTALLATION KIT, engine (Graders prior to #1209)
1	70051110 BLOCK, pedal stop
1	70077341 CLIP, tube supporting
4	70078810 PIN, yoke
1	70085038 PIN, yoke
1	70242038 PIN, shut-off cable
2	70628736 YOKE, control rod
1	70628737 YOKE, control rod
1	70628738 PIN, control rod yoke
2	70639314 CLIP, cable supporting
1	70646631 NUT, cable supporting (welds to seat and tank assy.)
1	70659123 CABLE ASSY., engine shut-off control
1	70650317 BRACKET, cable supporting
1	70650318 HOSE, fuel supply
1	70650436 ROD, throttle control
1	70650439 ROD, throttle control
1	70650445 ROD, throttle control
1	70650447 BELLCRANK ASSY.
1	70650484 TUBE, fuel pressure gauge
1	70650495 TUBE, fuel pressure gauge
1	70658356 GAUGE, fuel pressure
1	70666557 HOSE, fuel return
1	70917649 PIN, yoke
1	70919062 CONNECTOR, flare type, 3/8" tube, 1/4" NPT male
1	70919140 CONNECTOR, flare type, 1/4" tube, 1/4" NPT male
1	70919171 CONNECTOR, flare type, 1/4" tube, 1/8" NPT male
1	70919174 CONNECTOR, flare type, 1/4" tube, 1/8" NPT female
1	70919214 UNION, flare type, 1/4" tube
1	70923178 CONNECTOR, flare type, 3/8" tube, 1/4" NPT female
1	----- LOT OF MISC. ATTACHING HARDWARE
74359601	PISTON AND SLEEVE KIT (Engines prior to #10-11022. If replacing entire set order PISTON AND SLEEVE KIT 74359602 and GASKET KIT 74359410)
2	74255465 RETAINER, piston pin
1	74336578 RING SET, piston
1	74337395 PIN, piston
2	74337972 O-RING, cylinder sleeve
1	74358730 PISTON
1	74359581 SLEEVE, cylinder
1	74359586 O-RING
74359602	PISTON AND SLEEVE KIT (Effective with engine #10-11022)
2	74255465 RETAINER, piston pin
1	74336578 RING SET, piston
1	74337395 PIN, piston
2	74337972 O-RING, cylinder sleeve
1	74358730 PISTON
1	74359582 SLEEVE, cylinder
1	74359586 O-RING, cylinder sleeve

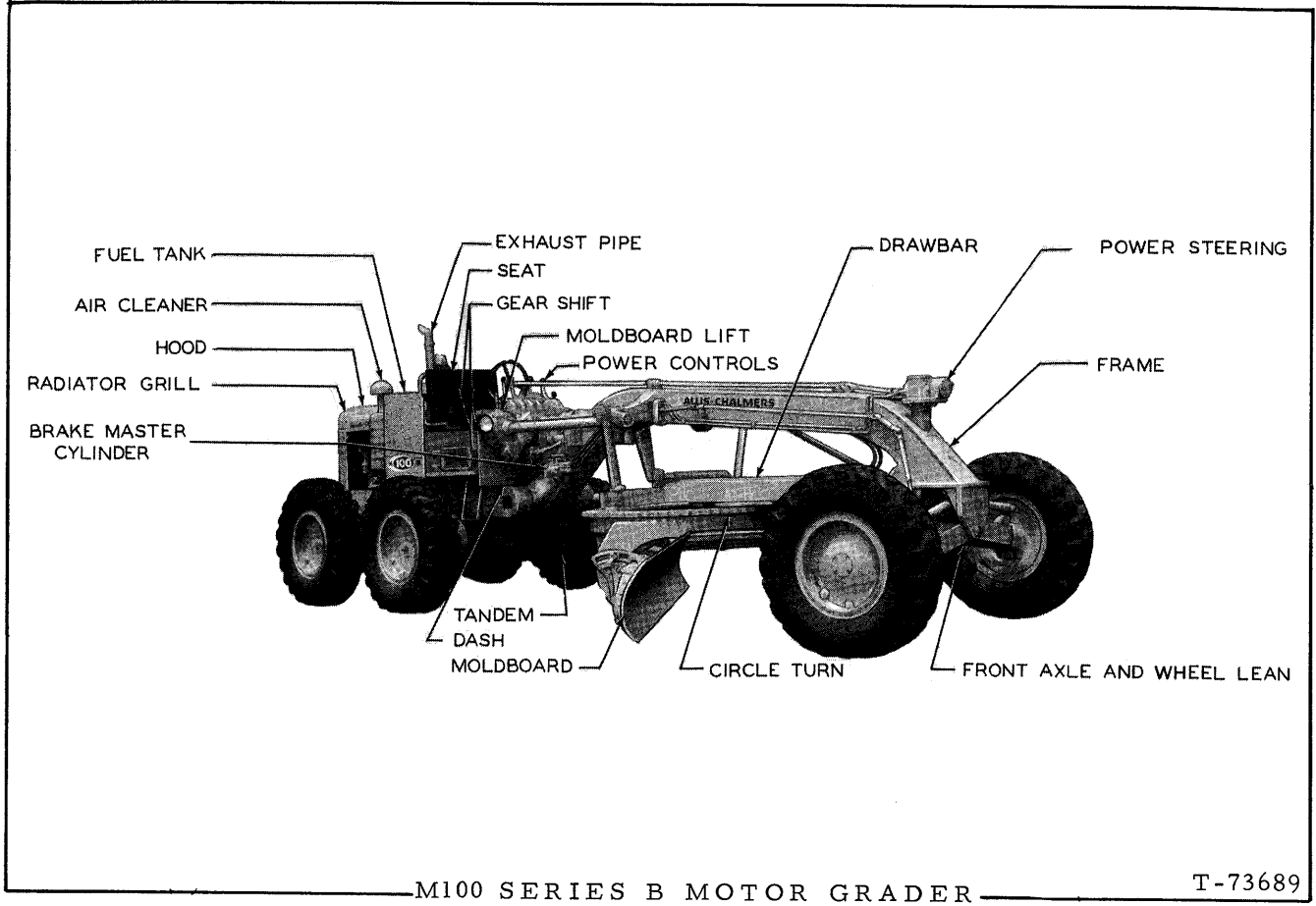
PACKAGE PARTS

PACKAGE  
NUMBER

DESCRIPTION

-----		REPAIR KIT, brake booster (See page 156)
-----		REPAIR KIT, brake master cylinder (See page 157)
-----		REPAIR KIT, clutch booster (See page 111)
-----		RING SET, piston (See PISTON AND CONNECTING ROD)
-----		TOOL SET (See TOOLS)
-----		TRANSFER SET (See PAINTING AND MARKING)
74321189		ENGINE OIL PUMP KIT (Adapts ACULOP scavenging and oil pressure pump to engines prior to serial No. 11-24134)
	1	70035250 PLUG
	1	70667252 GASKET
	2	70904206 LOCKWASHER, 3/8"
	2	70907863 LOCKWASHER, 7/16"
	4	70910287 LOCKWASHER, 3/8"
	5	70912369 WASHER
	29	70913544 WASHER
	22	70914847 CAPSCREW, 3/8"NCx 1-1/2"
	4	70916271 CAPSCREW, 3/8"NCx 1"
	4	70916279 CAPSCREW, 5/16"NCx 1-1/2"
	8	70916543 LOCKWASHER, internal tooth, 3/8"
	2	70916871 NUT, elastic stop, 5/8" NC
	1	70919784 CAPSCREW, 5/16" NCx 4"
	4	70921076 CAPSCREW, 3/8" NCx 1-1/4"
	1	70921204 PLUG, 1-1/16" str. -thd. (Includes O-RING)
	2	70921565 CAPSCREW, 3/8" NCx 1-1/2"
	8	70923193 CAPSCREW, 3/8" NFx 1-1/4"
	2	70928212 NUT, 7/16" NC
	1	70930924 O-RING
	5	74255916 CAPSCREW, Nylon strip, 3/8" NC x 1"
	1	74320597 VALVE ASSY., pressure relief
	1	74320838 ELBOW
	1	74320839 TUBE
	1	74320885 TUBE
	1	74320887 TUBE
	1	74320916 GASKET
	1	74321052 ELBOW
	1	74321053 U-BOLT
	1	74321691 BRACKET
	1	74321186 PAN, oil
	1	74321399 OIL PUMP ASSY., w/GEAR
	1	74337740 GASKET
	1	74337741 PLATE
	4	74393359 GASKET
	2	74395024 DOWEL
	1	74347543 GASKET
	1	OA-8673 DRAWING

(Revised May 1978)



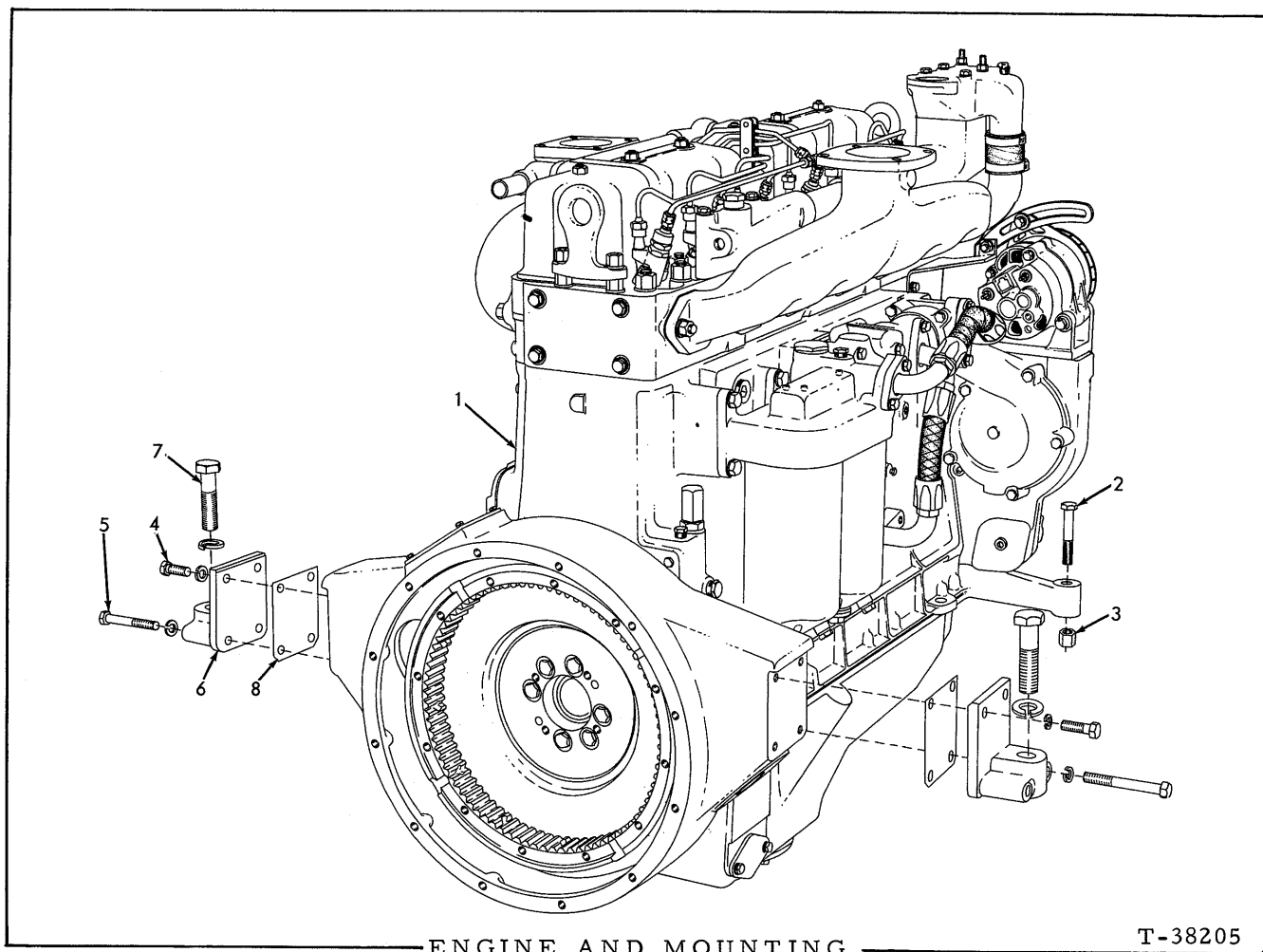
M100 SERIES B MOTOR GRADER

T-73689

MEMO



MEMO



ENGINE AND MOUNTING

T-38205

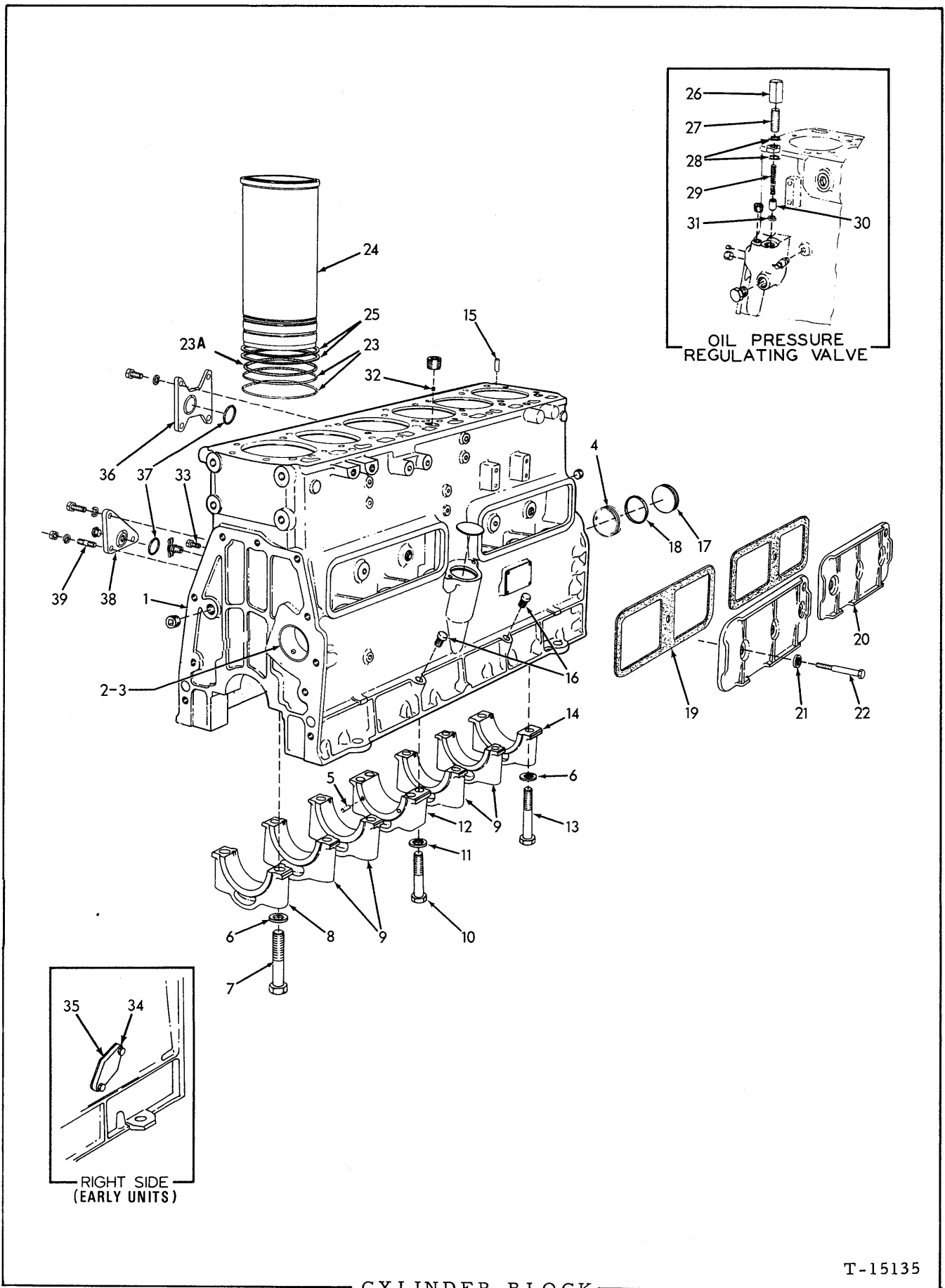
ITEM	PART NO.	QTY.	DESCRIPTION
1	-----	1	ENGINE ASSY. ("American Bosch" Injection Pump. Non-turbocharged)(Graders prior to #1209. Order ENGINE ASSY. 74354579 and item 9)
	74354579	1	ENGINE ASSY. ("Roosa" Injection Pump. Non-turbocharged. Standard on graders #1209 thru #5001)
	74359118	1	ENGINE ASSY. ("Roosa" Injection Pump. Turbocharged. Optional on graders prior to #5001. Standard on graders unit #05001 thru #05129 and #05158 thru #05189)
	74359358	1	ENGINE ASSY. ("Roosa" Injection Pump. Turbocharged)(Standard on graders unit #05130 thru #05157; also #05190 thru #06588)
	74359736	1	ENGINE ASSY. ("Bosch-Germany" Injection Pump. Turbocharged) (Standard on graders unit #06589 and up)
2	70915985	2	CAPSCREW, 5/8" NF x 3-1/2"
3	70072366	2	NUT, high, 5/8" NF
4	70915987	4	CAPSCREW, 1/2" NC x 1-1/2"
5	70914399	4	CAPSCREW, 1/2" NC x 3-3/4"
	70904208	8	LOCKWASHER, 1/2"

**NOTE:** Each engine assembly listed above includes oil filter, oil cooler and fuel filter but is less air cleaner, fan, starter and muffler.

(Continued)

ENGINE AND MOUNTING (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
6	70085769	2	BRACKET, engine supporting, front
7	70012762	2	CAPSCREW, 7/8"NF x 3-1/4"
	70905347	2	LOCKWASHER, 7/8"
8	70089617	2	SHIM, spacing (1/32" thick. Use as req'd)
9	70651180	1	INSTALLATION KIT, engine (See PACKAGED PARTS for details)



CYLINDER BLOCK

T-15135