

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

ORGANIZATIONAL MAINTENANCE MANUAL

CRUSHER, ROLL: DIESEL AND
ELECTRIC DRIVEN; WHEEL MOUNTED,
PNEUMATIC TIRES; 75 TON PER HOUR
(EAGLE CRUSHER MODEL 5230B)
FSN 3820-788-5999
COMPONENT OF CRUSHING AND SCREENING
PLANT; DIESEL AND ELECTRIC DRIVEN;
WHEEL MOUNTED; 75 TON PER HOUR

This copy is a reprint which includes current pages from Changes 1 and 2

HEADQUARTERS, DEPARTMENT OF THE ARMY

28 FEBRUARY 1964

TECHNICAL MANUAL

No. 5-3820-205-20/1



HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D. C., 28 February 1964

ORGANIZATIONAL MAINTENANCE MANUAL

CRUSHER, ROLL: DIESEL AND ELECTRIC DRIVEN; WHEEL MOUNTED, PNEUMATIC TIRES; 75 TON PER HOUR (EAGLE CRUSHER MODEL 5230B) FSN 3820-778-5999 COMPONENT OF CRUSHING AND SCREENING PLANT; DIESEL AND ELECTRIC DRIVEN; WHEEL MOUNTED; 75 TON PER HOUR

		Paragraph	Page
CHAPTER 1.	INTRODUCTION		
Section I.	General	1, 2	3
II.	Description and data.....	3-5	5
CHAPTER 2.	INSTALLATION AND OPERATION INSTRUCTIONS		
Section I.	Service upon receipt of equipment	6-10	11
II.	Movement to a new worksite	11, 12	16
CHAPTER 3.	GENERAL MAINTENANCE INSTRUCTIONS		
Section I.	Special tools and equipment.....	13, 14	17
II.	Lubrication	15-17	17
III.	Preventive maintenance services	18, 19	17
IV.	Troubleshooting	20-42	18
V.	Field expedient repairs	43-45	25
VI.	Radio interference suppression	46-49	25
CHAPTER 4.	ENGINE MAINTENANCE INSTRUCTIONS		
Section I.	Manual and mechanical controls and instruments	50-57	27
II.	Fuel system.....	58-65	30
III.	Engine lubrication system.....	66-71	42
IV.	Engine exhaust system	72-74	43
V.	Engine electrical system.....	75-89	45
VI.	Engine housing.....	90-94	60
VII.	Valve cover and rocker arm assemblies	95-97	63
VIII.	Engine cooling system.....	98-104	64
CHAPTER 5.	DOLLY MAINTENANCE INSTRUCTIONS		
Section I.	Dolly electrical system.....	105-107	76
II.	Dolly assembly	108-117	76

*This manual supersedes TM 5-3820-205--20/1, 11 August 1961, including C 1, 5 October 1962, and C 2, 22 May 1963.

TAGO 8157A-Feb

		Paragraph	Page
CHAPTER 6.	ROLL CRUSHER MAINTENANCE INSTRUCTIONS		
Section I.	Drive belts	118-120	87
II.	Sheave, hub, and guard base	121, 122	87
III.	Crusher electrical system	123-130	87
IV.	Air system	131-136	97
V.	Trailer lights and wiring	137-139	98
VI.	Reciprocating feeder assembly.....	140-148	99
VII.	Belt conveyor assemblies	149-156	106
VIII.	Rotary elevator assembly	157-160	122
IX.	Roll crusher assembly	161-163	122
X.	Vibrator screen assembly	164-170	123
XI.	Walkways, ladders, and pintle hook.....	171-174	128
XII.	Rear wheels, tires, and brakes	175-179	129
XIII.	Leveling jacks, toolbox and fire extinguisher bracket.....	180-184	140
CHAPTER 7.	SHIPMENT AND LIMITED STORAGE		
Section I.	Shipment within zone of interior	185, 186	150
II.	Limited storage	187, 188	151
APPENDIX I.	REFERENCES.....		153
II.	MAINTENANCE ALLOCATION.....		155
INDEX			166

AGO 8157A

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1. Scope

a. These instructions are published for the use of the personnel to whom the Roll Crusher, Eagle Model 5230B is issued. They provide information on organizational maintenance of the equipment, its accessories, and auxiliaries. This manual also includes instructions for shipment and limited storage.

b. Appendix I contains a list of publications applicable to this manual. Appendix II contains the maintenance allocation chart. The organizational maintenance repair parts and special tool lists are in TM 5-3820-205-20P/1.

c. Numbers in parentheses on illustrations indicate quantity. Numbers preceding nomenclature callouts on illustrations indicate the preferred maintenance sequence.

d. The direct reporting, by the individual user, of errors, omissions, and recommendations for improving this manual is authorized and encouraged. DA Form 2028 (Recommended Changes to Technical Manual

Parts Lists or Supply Manual 7, 8, or 9) will be used for reporting these improvements. This form will be completed in triplicate using pencil, pen, or typewriter. The original and one copy will be forwarded direct to the Commanding Officer, U. S. Army Mobility Support Center, ATTN: SMOMS-MM, P. O. Box 119, Columbus, Ohio 43216. One information copy will be provided to the individual's immediate supervisor (e.g., officer, noncommissioned officer, supervisor, etc.).

e. Report all equipment improvement recommendations as prescribed by TM 38-750.

2. Record and Report Forms

DA Form 2258 (Depreservation Guide of Engineer Equipment). For any other record and report forms applicable to organizational maintenance, refer to TM 38-750.

Note. Applicable forms, excluding Standard Form 46 which is carried by the operator, will be kept in a canvas bag mounted on the equipment.

Section II. DESCRIPTION AND DATA

3. Description

TM 5-3820-205-10/1 provides a general description of the roll crusher. Specific and detailed descriptions of the components of the lubrication and servicing unit are provided in the applicable maintenance paragraphs of this manual.

4. Identification and Tabulated Data

a. *Identification.* Descriptions and locations of major identification plates on the roll crusher are listed in TM 5-3820-205-10/1. The machine has eight identification plates on small, interchangeable components.

- (1) *Starter motor identification plate.* Provides make, model, serial number, and voltage of the starter motor. It is mounted on the starter housing.
- (2) *Generator identification plate.* Provides the make, model, serial number, amperes, and voltage rating of the generator. It is mounted on the generator housing.
- (3) *Generator Regulator Identification Plate.* Provides the make, model, serial number, amperes, voltage, and type of ground. It is located on the regulator housing.

AGO 8157A

- Manufacturer..... Hartford Machine Screw Corp.
Type Plunge
Model 12383

(15) *Feeder, return (under) conveyor, and rotary elevator motors.*

Manufacturer..... General Electric Co.
Model..... 5KG215BG202
Type KG
Horsepower..... 5
Revolutions per minute 1,745
Volt 208-220/440
Phase 3
Cycle 60
Amperes 14.2/7.1
Time rating..... Continuous

(16) *Vibrating screen motor.*

Manufacturer..... General Electric Co.
Model 5KG4284B2
Type KG
Horsepower 15
Revolutions per minute 1,755
Volt 208-220/440
Phase 3
Cycle 60
Amperes 40.8/20.4
Time rating Continuous

(17) *Main (feed) conveyor motor.*

Manufacturer..... General Electric Co.
Model 5KG4256B2
Type KG
Horsepower 10
Revolutions per minute 1,745
Volt 208-220/440
Phase 3
Cycle..... 60
Amperes 27.4/13.7
Time rating..... Continuous

(18) *Tires.*

Size 11:00-15
Type..... LPT Nylon
Number of ply 20 ply rating

Pressure 100 psi (pounds per square inch)

(19) *Adjustments.*

Fan Belts ¾ in. (inch) (es) deflection between pulleys on long side
Drive belts (electric motor) ... 1/2 in. deflection between pulleys
Main drive belt 1 to 1 1/2 in. deflection between pulleys
Crusher rolls springs..... 23 in. spring length
Intake valves (hot) 0.020 in.
Exhaust valves (hot) 0.024 in.

Generator regulator:

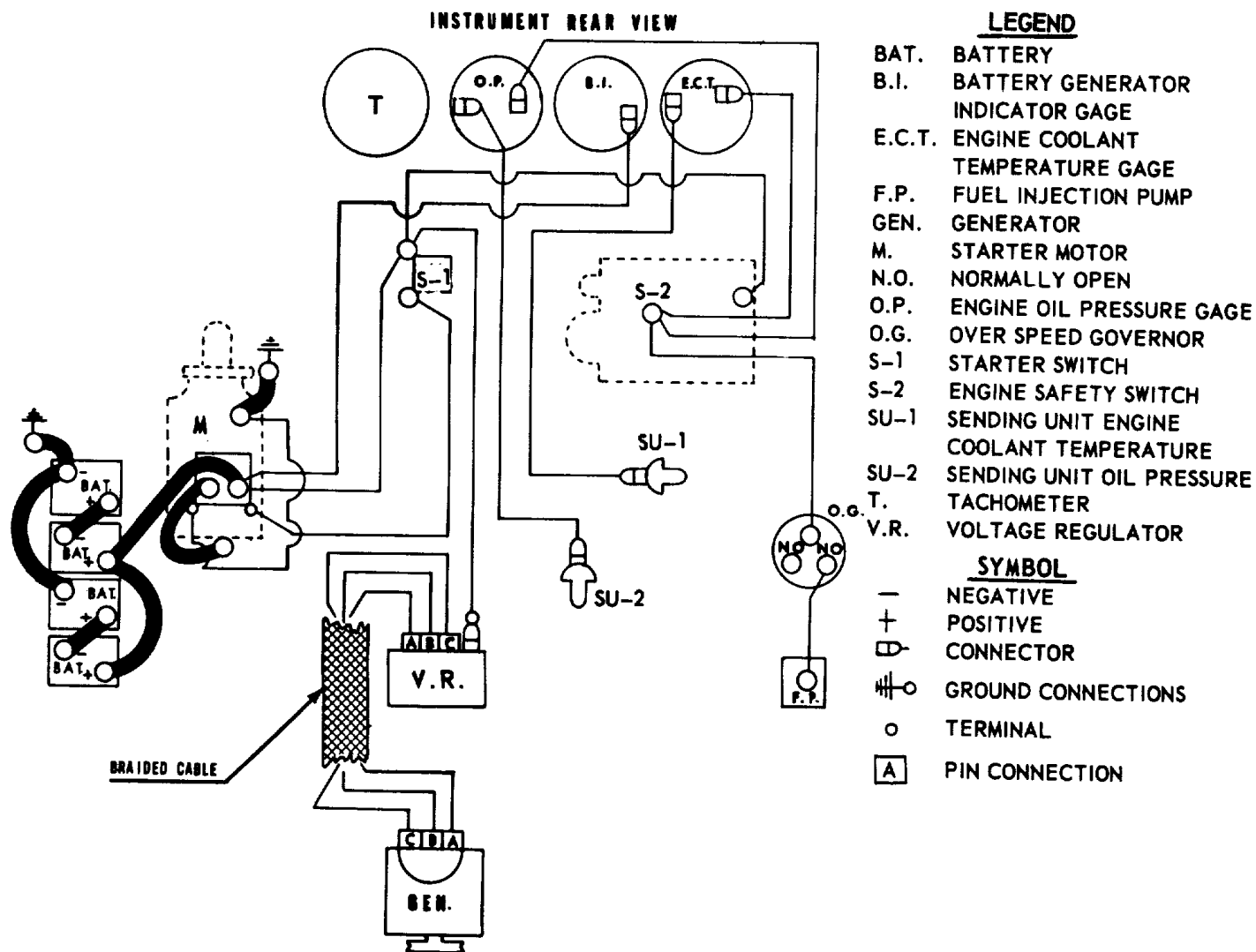
Cutout relay air gap 0.048 in.
Cutout relay point opening 0.035 in.
Cutout relay closing voltage 25-27 v (volts)
Current regulator air gap.. 0.115 in.
Current regulator current setting 38 to 42 amp (amperes)
Voltage regulator air gap . 0.084 in.
Voltage regulator closing voltage 27.5-29.5 v
(when adjusting set at middle of range) 28.5 v

(20) *Nut and bolt torque data.*

Intake manifolds 50-55 ft-lb (foot-pounds)
Exhaust manifolds 50-55 ft-lb
Fuel injectors 14-16 ft-lb
Fuel line connector screws .. 420 in-lb (inch-pounds)
Wheel bearing adjusting nut . 50 ft-lb
Wheel bearing outer locknut 250-400 ft-lb
Inner and outer wheel nuts .. 500-600 ft-lb

(21) *Practical wiring diagram.* The practical wiring diagram of the electrical system is shown on figure 1.

AGO 8157A



MSC 3820-205-20/1/1 ①

(Serial number range 6550 through 6587)

Figure 1. Wiring diagram.

AGO 8157A