

TECHNICAL MANUAL

**UNIT, DIRECT SUPPORT AND GENERAL
SUPPORT MAINTENANCE
REPAIR PARTS AND SPECIAL TOOLS LIST**

**COMPRESSOR, DIVING AIR, DIESEL
ENGINE DRIVEN, 88.5 SCFM, 200 PSI
(MODEL HII-271-5120)
NSN 4310-01-113-8271**

Approved for public release; distribution is unlimited.

***This manual, together with TM 5-4310-379-14, supersedes TM 5-4310-379-12&P, dated 14 March 1986, in its entirety.**

**HEADQUARTERS, DEPARTMENT OF THE ARMY
28 May 1991**

TECHNICAL MANUAL

NO. 5-4310-379-24P

HEADQUARTERS,
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 28 May 1991

Unit, Direct Support and General Support Maintenance
Repair Parts and Special Tools List
for
COMPRESSOR, DIVING AIR, DIESEL ENGINE
DRIVEN, 88.5 SCFM, 200 PSI
(MODEL HII-271-5120)
NSN 4310-01-113-8271

Current as of 15 May 1991

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms) or DA Form 2028-2 located in the back of this manual directly to: Commander, U.S. Army Troop Support Command, ATTN: AMSTR-MMTS, 4300 Goodfellow Boulevard, St. Louis, MO 63120-1798. A reply will be furnished directly to you.

Approved for public release; distribution is unlimited

	Page	Illus/ Figure
Section I. INTRODUCTION	1	
Section II. REPAIR PARTS LIST	1-1	
Group 01 Engine Assembly, Diesel.....	1-1	1
Exhaust System	2-1	2
Exhaust Manifold	3-1	3
Cooling System.....	4-1	4
Shell Assembly	5-1	5
Radiator Assembly	6-1	6
Thermostat and Housing Assembly	7-1	7
Water Pump Assembly	8-1	8
Fuel System.....	9-1	9
Lines and Fittings.....	10-1	10
Fuel Filter Assembly	11-1	11
Fuel Strainer Assembly.....	12-1	12
Fuel Pump	13-1	13
Drive Assembly.....	14-1	14
Injector Controls.....	15-1	15
Control Tube	16-1	16
Fuel Injectors	17-1	17
Governor Assembly	18-1	18
Cover Assembly, Governor	19-1	19
Differential and Operating Assembly, Governor	20-1	20

*This manual, together with TM 5-4310-379-14, supersedes TM 5-4310-379-12&P, dated 14 March 1986, in its entirety.

TABLE OF CONTENTS (Cont)

		Page	Illust/ Figure
Group 01	Housing Assembly, Governor.....	21-1	21
	Air System	22-1	22
	Air Cleaner Assembly	23-1	23
	Air Inlet Housing Assembly	24-1	24
	Blower Assembly	25-1	25
	Air Box Drains.....	26-1	26
	Starting System	27-1	27
	Starter.....	28-1	28
	Starting Aid.....	29-1	29
	Electrical System	30-1	30
	Battery Charging Alternator.....	31-1	31
	Wiring Harness	32-1	32
	Battery and Cables	33-1	33
	Lubrication System	34-1	34
	Oil Distribution System	35-1	35
	Oil Pump	36-1	36
	Oil Filter.....	37-1	37
	Oil Cooler	38-1	38
	Oil Cooler By-Pass Valve.....	39-1	39
	Flywheel Assembly	40-1	40
	Flywheel Housing Assembly.....	41-1	41
	Rocker Cover.....	42-1	42
	Cylinder Head Group	43-1	43
	Valve Operating Mechanism	44-1	44
	Exhaust Valves.....	45-1	45
	Piston and Connecting Rods.....	46-1	46
	Piston Assembly	47-1	47
	Cam, Balance Shafts and Gear Drive	48-1	48
	Crankshaft, Pulley, and Belts	49-1	49
	Cylinder Block and Cover Assembly	50-1	50
	Breather Assembly.....	51-1	51
Group 02	Power Take-Off Assembly.....	52-1	52
	Clutch Assembly	53-1	53
Group 03	Air Compressor Assembly	54-1	54
	Lines and Fittings.....	55-1	55
	VD Pilot Valve	56-1	56
	Hydraulic Unloader	57-1	57
	Dual Control Check Valve.....	58-1	58
	Shroud.....	59-1	59
	Air Cleaner, Intake	60-1	60
	Manifold.....	61-1	61
	Head Assembly.....	62-1	62
	Valve Assembly, Discharge	63-1	63
	Unloader Assembly, Air.....	64-1	64

TABLE OF CONTENTS (Cont)

		Page	Illus/ Figure
Group 03	Valve Assembly, Intake.....	65-1	65
	Piston Assembly, High Pressure.....	66-1	66
	Connecting Rod Assembly	67-1	67
	Piston Assembly, Low Pressure.....	68-1	68
Group 04	Portable Air Filtration System.....	69-1	69
Group 05	Receiver, Air, 30 Gallon (Fixed)	70-1	70
Group 06	Receiver, Air 60, Gallon (Portable).....	71-1	71
Group 07	Frame Assembly	72-1	72
	Controls and Indicators.....	73-1	73
	Control Panel	74-1	74
	Fuel Tank.....	75-1	75
Group 08	Bulk Items List (Not Illustrated)		
Section III	TOOLS SETS AND SPECIAL TOOL LIST	76-1	76
Section IV	CROSS REFERENCE INDEXES	I-1	
	National Stock Number Index	I-1	
	Part Number Index	I-5	
	Figure and Item Number Index	I-34	

UNIT, DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LIST

Section I. INTRODUCTION

1. SCOPE. This RPSTL lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of unit, direct support and general support maintenance of the 88.5 SCFM, Diving air Compressor.. It authorizes the requisitioning, issue, and disposition of spares, repair parts and special tools as indicated by the source, maintenance and recoverability (SMR) codes.

2. GENERAL. In addition to this section, Introduction, this Repair Parts and Special Tools List is divided into the following sections:

a. Section II. Repair Parts List. A list of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. This list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Bulk materials are listed in item name sequence. Repair parts kits are listed separately in functional groups in Section II. Repair parts for repairable special tools are also listed in this section. Items listed are shown in the associated illustration(s)/figure(s).

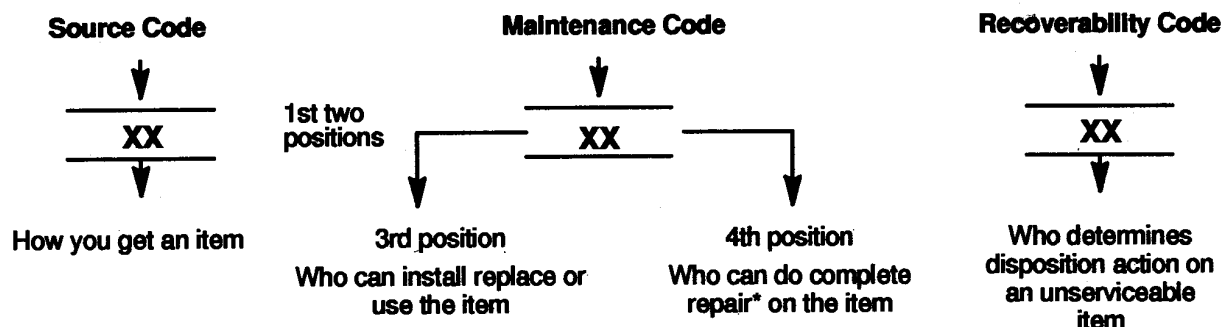
b. Section III. Special Tools List. A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information in DESCRIPTION AND USABLE ON CODE column) for the performance of maintenance.

c. Section IV. Cross-Reference Index. A list, in National Item Identification Number (NIIN) sequence, of all national stock numbered items appearing in the listing, followed by a list in alphanumeric sequence of all part numbers appearing in the listings. National stock numbers and part numbers are cross referenced to each illustration figure and item number appearance. The figure and item number index lists figure and item numbers in alphanumeric sequence and cross references NSN, CAGEC and part number.

3. EXPLANATION OF COLUMNS (SECTIONS II AND III).

a. ITEM NO. (Column (1)). Indicates the number used to identify items called out in the illustration.

b. SMR Code (Column (2)). The Source, Maintenance, and Recoverability (SMR) code is a 5-position code containing supply/requisitioning information, maintenance category authorization criteria, and disposition instruction, as shown in the following breakout:



*Complete Repair: Maintenance capacity, capability, and authority to perform all corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

- (1) **Source Code.** The source code tells you how you get an item needed for maintenance, repair, or overhaul of an end item/equipment. Explanations of source codes follow.

Code	Explanation
PA PB PC** PD PE PF PG	Stocked items; use the applicable NSN to request/requisition items with these source codes. They are authorized to the category indicated by the code entered in the 3rd position of the SMR code. **NOTE : Items coded PC are subject to deterioration.
KD KF KB	Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance category indicated in the 3rd position of the SMR code. The complete kit must be requisitioned and applied.
MO (Made at org AVUM level) MF (Made at DS/AVUM level) MH (Made at GS level) ML (Made at Specialized Repair Activity (SRA)) MD (Made at Depot)	Items with these codes are not to be requested/requisitioned individually. They must be made from bulk material which is identified by the part number in the DESCRIPTION and USABLE ON CODE (UOC) column and listed in the Bulk Material group of the repair parts list in the RPSTL. If the item is authorized to you by the 3rd position code of the SMR code, but the source code indicates it is made at a higher level, order the item from the higher level of maintenance.
AO (Assembled by org AVUM Level) AF (Assembled by DS/AVUM Level) AH (Assembled by GS Category) AL (Assembled by SRA) AD (Assembled by Depot)	Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the level of maintenance indicated by the source code. If the 3rd position code of the SMR code authorizes you to replace the item, but the source code indicates the items are assembled at a higher level, order the item from the higher level of maintenance.

XA - Do not requisition an "XA"-coded item. Order its next higher assembly. (Also, refer to the NOTE below.)

XB - If an "XB" item is not available from salvage, order it using the CAGE Code and part number given.

XC - Installation drawing, diagram, instruction sheet, field service drawing, that is identified by Reciprocating Compressor manufacturer's part number.

XD - Item is not stocked. Order an "XD"-coded item through normal supply channels using the CAGE Code and part number given, if no NSN is available.

NOTE

Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes, except for those source coded "XA" or those aircraft support items restricted by requirements of AR 750-1

(2) Maintenance Code. Maintenance codes tell you the level(s) of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third and fourth positions of the SMR code as follows:

(a) The maintenance code entered in the third position tells you the lowest maintenance level authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to the following levels of maintenance.

Code	Application/Explanation
C	Crew or operator maintenance done within unit/AVUM maintenance.
O	Unit level VAVUM maintenance can remove, replace, and use the item.
F	Direct support/AVIM maintenance can remove, replace, and use the item.
H	General support maintenance can remove, replace, and use the item.
L	Specialized repair activity can remove, replace, and use the item.
D	Depot can remove, replace, and use the item.

(b) The maintenance code entered in the fourth position tells whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (i.e., perform all authorized repair functions).

NOTE

Some limited repair may be done on an item at a lower level of maintenance, if authorized by the Maintenance Allocation Chart and SMR codes. This position will contain one of the following maintenance codes.

Code	Application/Explanation
O	Unit VAVUM is the lowest level that can do complete repair of the item.
F	Direct support VAVIM is the lowest level that can do complete repair of the item.
H	General Support is the lowest level that can do complete repair of the item.
L	Specialized repair activity is the lowest level that can do complete repair of the item.
D	Depot is the lowest level that can do complete repair of the item.
Z	Nonreparable. No repair is authorized.
B	No repair is authorized. No parts or special tools are authorized for the maintenance of a "B" coded item. However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

(3) Recoverability Code. Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is entered in the fifth position of the SMR Code as follows:

Recoverability
Codes

Application/Explanation

- Z - Nonreparable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in 3d position of SMR Code.
- O - Reparable item. When not economically reparable, condemn and dispose of the item at unit or AVUM level.
- F - Reparable item. When uneconomically reparable, condemn and dispose of the item at the direct support or aviation unit level.
- H - Reparable item. When uneconomically reparable, condemn and dispose of the item at the general support level.
- D - Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item not authorized below depot level.
- L - Reparable item. Condemnation and disposal not authorized below specialized repair activity (SRA).
- A - Item requires special handling or condemnation procedures because of specific reasons (e.g., precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.

c. CAGEC (Column (3)). The Commercial and Government Entity Code (CAGEC) is a 5-digit numeric code which is used to identify the manufacturer, distributor, or Government agency/activity that supplies the item.

d. PART NUMBER (Column (4)). Indicates the primary number used by the manufacturer, (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.

NOTE

When you use an NSN to requisition an item, the item you receive may have a different part number from the number listed.

e. DESCRIPTION AND USABLE ON CODE (UOC) (Column (5)). This column includes the following information:

- (1) The Federal item name and, when required, a minimum description to identify the item.
- (2) The physical security classification of the item is indicated by the parenthetical entry, e.g., Phy Sec C1 (C)-Confidential, Phy Sec C1 (S)-Secret, Phy Sec C1 (T)-Top-Secret.
- (3) Items that are included in kits and sets are listed below the name of the kit or set..
- (4) Spare/repair parts that make up an assembled item are listed immediately following the assembled item line entry.
- (5) Part numbers for bulk materials are referenced in this column in the line item entry for the item to be manufactured/fabricated.
- (6) When the item is not used with all serial numbers of the same model, the effective serial numbers are shown on the last line(s) of the description (before UOC).

(7) The usable on code, when applicable (see paragraph 5, Special Information).

(8) In the Special Tools List section, the basis of issue (BOI) appears as the last line(s) in the entry for each special tool, special TMDE, and other special support equipment. When density of equipments supported exceeds density spread indicated in the basis of issue, the total authorization is increased proportionately.

(9) The statement "END OF FIGURE" appears just below the last item description in Column 5 for a given figure in both Section II and Section III.

(10) The indenture, shown as dots appearing before the repair part, indicates that the item is a repair part of the next higher assembly.

f. QTY (Column (6)). The QTY (quantity per figure) column indicates the quantity of the item used in the breakout shown on the illustration/figure, which is prepared for a functional group, subfunctional group, or an assembly. A "V" appearing in this column instead of a quantity indicates that the quantity is variable and may vary from application to application.

4. EXPLANATION OF COLUMNS (SECTION IV).

a. NATIONAL STOCK NUMBER (NSN) INDEX.

(1) **STOCK NUMBER Column.** This column lists the NSN in National item Identification number (NIIN) sequence. The NIIN consists of the last nine digits of the NSN, i.e.

NSN
5305-01-574-1467
NIIN

When using this column to locate an item, ignore the first four digits of the NSN. Use the complete NSN (13 digits) when requisitioning items by stock number.

(2) **FIG. Column.** This column lists the number of the figure where the item is identified/located. The figures are in numerical order in Section II and Section III.

(3) **ITEM Column.** The item number identifies the item associated with the figure listed in the adjacent FIG. column. This item is also identified by the NSN listed on the same line.

b. PART NUMBER INDEX. Part numbers in this index are listed in ascending alphanumeric sequence (i. e., vertical arrangement of letter and number combinations which place the first letter or digit of each group in order A through Z, followed by the numbers 0 through 9, and each following letter or digit in like order).

(1) **CAGEC Column.** The Commercial and Government Entity Code (CAGEC) is a 5-digit numeric code used to identify the manufacturer, distributor, or Government agency/activity that supplies the item.

(2) **PART NUMBER Column.** Indicates the primary number used by the manufacturer (individual, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.

(3) **STOCK NUMBER Column.** This column lists the NSN for the associated part number and manufacturer identified in the PART NUMBER and CAGEC columns to the left.

(4) FIG. Column. This column lists the number of the figure where the item is identified/located in Section II and Section III.

(5) ITEM Column. The item number is that number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

c. FIGURE AND ITEM NUMBER INDEX.

(1) FIG. Column. This column lists the number of the figure where the item is identified/located in Section II and Section III.

(2) ITEM Column. The item number is that number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

(3) STOCK NUMBER Column. This column lists the NSN for the item.

(4) CAGEC Column. The Commercial and Government Entity Code (CAGEC) is a 5-digit numeric code used to identify the manufacturer, distributor, or Government agency/activity that supplies the item.

(5) PART NUMBER Column. Indicates the primary number used by the manufacturer (individual, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.

5. SPECIAL INFORMATION.

a. USABLE ON CODE. The usable on code appears in the lower left corner of the Description column heading. Usable on codes are shown as "UOC:..." in the Description Column justified left) on the last line of the applicable item description/nomenclature. Uncoded items are applicable to all models.

b. ASSOCIATED PUBLICATIONS. The publications listed below pertain to the Compressor and its components.

<u>Publication</u>	<u>Short Title</u>
TM 5-4310-379-14	Operator, Unit, DS and GS Maint. Manual for 88.5 Diving Compressor

6. HOW TO LOCATE REPAIR PARTS.

a. When National Stock Numbers or Part Numbers are NOT Known.

(1) First. Using the table of contents, determine the assembly or subassembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and listings are divided into the same groups.

(2) Second. Find the figure covering the assembly group or subassembly group to which the item belongs.