

Uncontrolled When Printed



Introduction



77XR-S-G-IN-EN-0002

WARNING

This document is **UNCONTROLLED** when printed.
Before use, go to the ProManual App to determine if this is the latest version.
Komatsu disclaims all liability for use of uncontrolled versions.

Uncontrolled When Printed

WARNING

This document is UNCONTROLLED when printed.
Before use, go to the ProManual App to determine if this is the latest version.
Komatsu disclaims all liability for use of uncontrolled versions.

Uncontrolled When Printed

Table of Contents

List of Figures	5
Preface	7
Copyright	7
Revision Record – 77XR-S-G-IN	9
Drill Introduction.....	11
Part Numbers	11
Applicability.....	11
Serial Number Location.....	11
Sign Maintenance.....	11
Safety Data Sheets (SDS).....	11
Description.....	13
General	13
Drill Description	13
Power Unit	17
Pump Drive Transmission (PDT)	17
Main Air Compressor.....	18
Lower Final Assembly (Undercarriage and Propel).....	19
Rotary Carriage	20
Mast and Mast Lock Assembly.....	21
Drill Pipe Storage and Handling	22
Slide Wrench	22
Operator's Controls	22
Hydraulic Systems.....	22
Main (Propel, Rotary, & Carriage Travel) Hydraulic System	22
Auxiliary and Fan Drive Hydraulic System.....	23
Water Injection System	23
Automatic Lubrication System	23
Main Air System	23
Towing System	24
Dust Curtains	24
Index	25

WARNING

This document is UNCONTROLLED when printed.

Uncontrolled When Printed

This Page Intentionally Left Blank

WARNING

This document is UNCONTROLLED when printed.

Uncontrolled When Printed

List of Figures

Figure 1	Rotary Blasthole Drill (Typical)	14
Figure 2	Deck Plan	15
Figure 3	Dimensions	16
Figure 4	Power Unit	17
Figure 5	Pump Drive Transmission	18
Figure 6	Main Air Compressor (Typical)	19
Figure 7	Undercarriage and Propel	20
Figure 8	Rotary Carriage	21
Figure 9	Dust Curtains	24

WARNING

This document is UNCONTROLLED when printed.

Uncontrolled When Printed

This Page Intentionally Left Blank

WARNING

This document is UNCONTROLLED when printed.

Uncontrolled When Printed

Preface

This manual is provided as a guide to personnel involved with the operation, maintenance and repair of Komatsu Mining Corp. equipment. We recommend that such personnel review and become familiar with the general procedures and information contained in this manual. In addition, we recommend that this manual be kept readily available for reference when repairs or maintenance are necessary.

Read and become familiar with this manual and any other general safety practices before attempting any procedures.

Due to the complexities of mining equipment and the environment in which it operates, situations may arise which are not directly discussed in detail in this manual. When such a situation arises, past experience, availability of equipment and common sense play a large part in what steps are to be taken. In addition, a Komatsu Mining Corp. service center representative is available to answer your questions and assist you upon request.

Komatsu Mining Corp. reserves the right to continually improve its products and associated documentation. Therefore, physical alterations to Komatsu equipment may not be identified in this manual. Revisions may be frequently made to this manual in an effort to ensure that information remains current as alterations occur to the equipment. If you find an error or have other feedback regarding this manual, please contact Product Training and Publications at Pro.Train.Pub@mining.komatsu.

Copyright

© 2021 Komatsu Mining Corp. All rights reserved. This manual is protected by United States copyright law and international treaties, and may not be reproduced, distributed, transmitted, displayed, published or broadcast without the prior written permission of Komatsu Mining Corp. or one of its affiliates. You may not alter or remove any trademark, copyright or other notice from copies of this manual. All rights in translations of this manual remain exclusively with Komatsu Mining Corp. or one of its affiliates.

WARNING

This document is UNCONTROLLED when printed.

Uncontrolled When Printed

This Page Intentionally Left Blank

WARNING

This document is UNCONTROLLED when printed.

Revision Record – 77XR-S-G-IN Introduction

Revision Record – 77XR-S-G-IN Introduction

Revision Record – 77XR-S-G-IN Introduction

Revision Record – 77XR-S-G-IN Introduction

Revision Record – 77XR-S-G-IN Introduction

Revision Record – 77XR-S-G-IN Introduction

Revision Record – 77XR-S-G-IN Introduction

Uncontrolled When Printed

This Page Intentionally Left Blank

WARNING

This document is UNCONTROLLED when printed.

Uncontrolled When Printed

Drill Introduction

This manual provides the information required to repair and maintain the drill.

Part Numbers

Repair parts information is provided in the electronic parts manual that is prepared for your drill.

Part numbers **are not** shown or referenced in this, or any other system based manual.

To obtain specific part numbers for individual parts or assemblies, always consult the electronic parts manual for your drill. The terminology used to describe parts and assemblies in the system manuals matches the terminology used in the electronic parts manual.

NOTICE

Always obtain the part numbers from the up-to-date electronic parts manual.

Applicability

All information in this manual, including descriptions, specifications, and illustrations is for the rotary blasthole drill, at the time of publication. Product improvements, owner modifications, or other changes introduced after this manual was published are not covered.

Questions concerning the drill or this manual should be referred to your service center representative.

Serial Number Location

The drill serial number is located inside the operator's cab.

Sign Maintenance

Signs of various types are located wherever required on the drill to warn personnel of potential hazards, identify controls and components, and to provide useful information.

Because these signs aid in the safe and efficient operation of the drill, inspection of all signs must be a part of the inspection program.

If signs are dirty, missing, or illegible, clean or replace them.

Safety Data Sheets (SDS)

In order to transfer Safety Data Sheet (SDS) information from our suppliers to our customers, we will provide this service upon customer request. All customer requests must be specific because of the volume and complexity of the SDS system.

To identify the appropriate SDS, one of the following must be included: part number, vendor trade name, or vendor name.

Address inquiries concerning SDS to your service center representative.

WARNING

This document is UNCONTROLLED when printed.

Uncontrolled When Printed

This Page Intentionally Left Blank

WARNING

This document is UNCONTROLLED when printed.

Uncontrolled When Printed

Description

General

The machine is designed to drill blast holes. These holes are then filled with explosives, which fracture the material for efficient removal. The drill is equipped for single-pass drilling, but can be optioned for multiple-pass drilling by coupling additional lengths of drill pipe to the drill string. An optional angle drilling package is available, that will allow for holes to be drilled at up to 15°.

All primary drill functions are accomplished with hydraulic power (propel, rotary motion, carriage travel). Power for the drill is provided by a diesel engine coupled to a pump drive transmission (PDT). Attached to the pump drive transmission is the torque converter, alternator, dual main hydraulic pump assemblies, and dual auxiliary hydraulic pump assemblies. The torque converter attaches between the pump drive transmission and the air compressor. The alternator provides the power to run all the electrical systems on the drill. An optional auxiliary power units (APU) is available to generate 24 volt power, without having to run the primary diesel engine.

Drill Description

Refer to [Figure 1 : Rotary Blasthole Drill \(Typical\)](#), [Figure 2 : Deck Plan](#), and [Figure 3 : Dimensions](#).

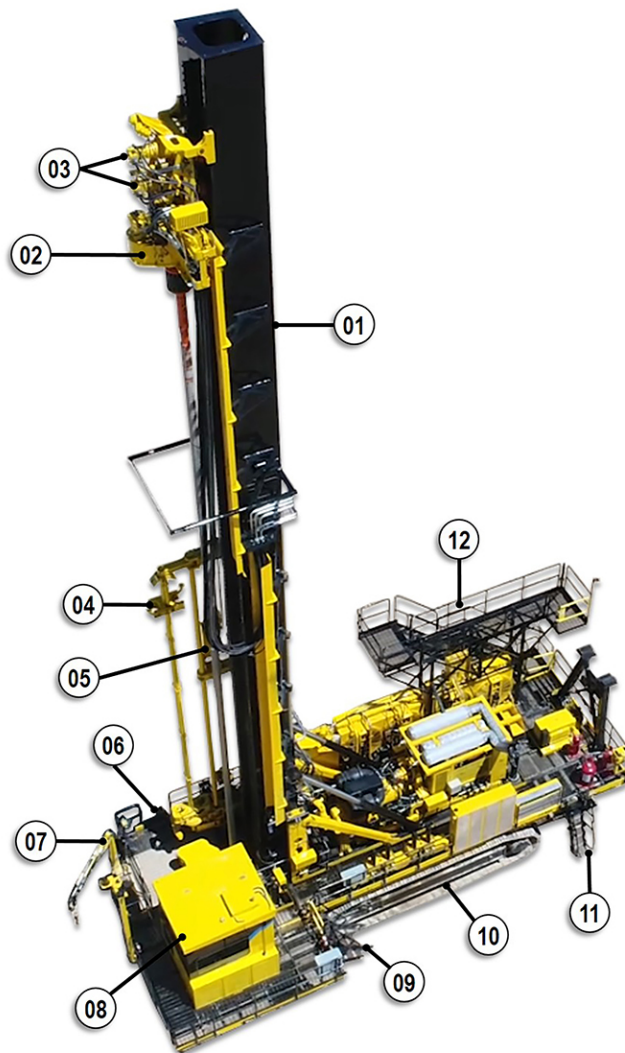
The rotary blasthole drill (hereafter, the drill) produces a pulldown bit load up to 77,167 pounds. (35 000 kg) and has been optimized to drill single-pass or multi-pass holes from 7 7/8 inches (20 cm) up to 10 5/8 inches (27 cm) in diameter.

WARNING

This document is UNCONTROLLED when printed.

Uncontrolled When Printed

Figure 1: Rotary Blasthole Drill (Typical)



01 - Mast

02 - Rotary Carriage Hydraulic Motor and Gearbox

03 - Hoist/Pulldown Hydraulic Motors and Planetary Transmissions

04 - Pipe Carousel

05 - Pipe Positioner

06 - Rear, Left Deck Entry Ladder

07 - Deck Crane (Optional)

08 - Operator's Cab

09 - Rear, Right Deck Entry Ladder

10 - Right Crawler Assembly

11 - Front, Right Deck Entry Ladder

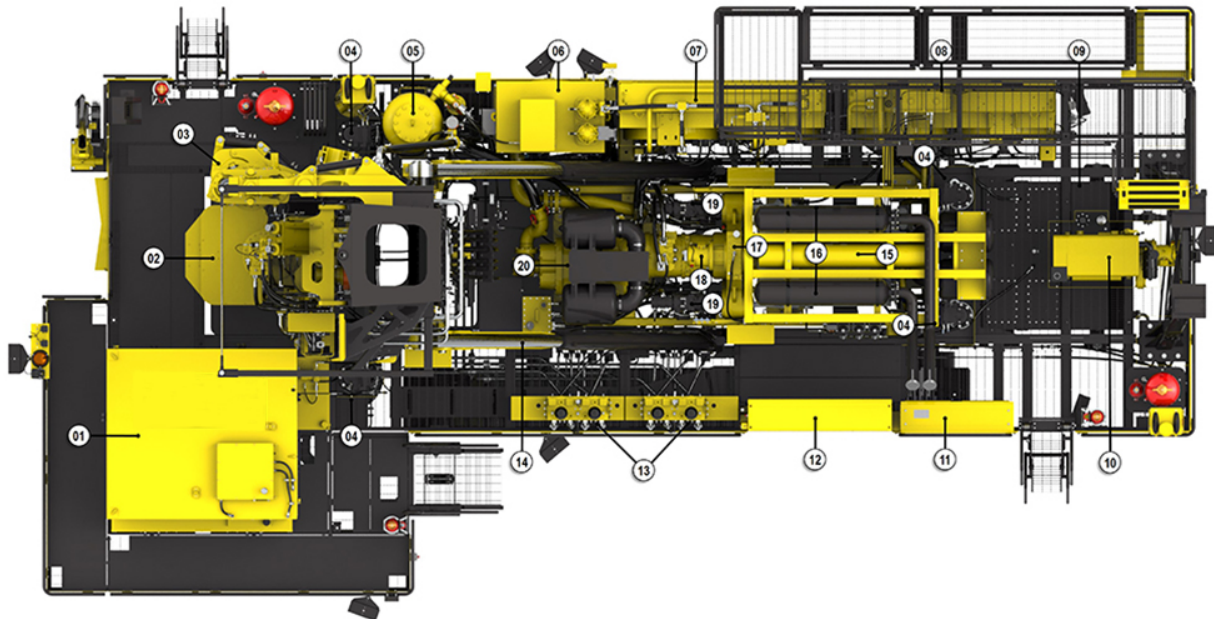
12 - Service Platform

WARNING

This document is UNCONTROLLED when printed.

Uncontrolled When Printed

Figure 2: Deck Plan



01 - Operator's Cab

02 - Bit Carousel

03 - Breakout Wrench

04 - Leveling Jack

05 - Compressor Oil Tank

06 - Hydraulic Oil Tank

07 - Hydraulic Oil Radiator

08 - Engine Radiator

09 - Diesel Fuel Tank (Under Deck)

10 - Auxiliary Power Unit (Optional)

11 - Battery Cabinet

12 - Electrical Controller Cabinet

13 - Diverter Valve Assemblies

14 - Mast Raise Cylinders

15 - Diesel Engine

16 - Engine Exhaust

17 - Pump Drive Transmission

18 - Alternator

19 - Hydraulic Pump Assemblies

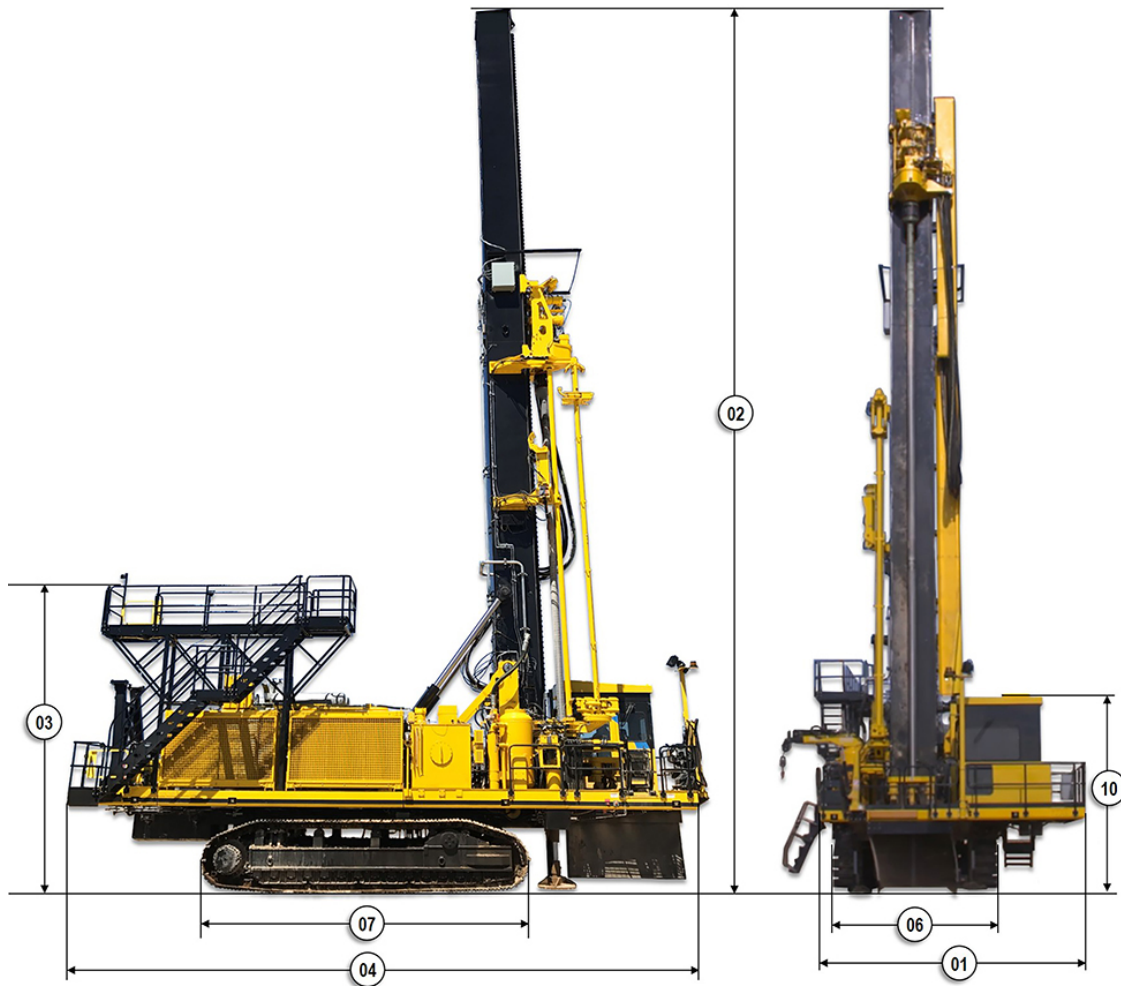
20 - Air Compressor and Intake Filters

WARNING

This document is UNCONTROLLED when printed.

Uncontrolled When Printed

Figure 3: Dimensions



Dimensions from <i>Figure 3</i>		
1	Width, overall	17 ft. 10 in. (5.43 m)
2	Height, mast up	80 ft. 5 in. (24.5 m)
3	Height, mast down	23 ft. 0 in. (7.0 m)
4	Length, mast up	43 ft. 0 in. (13.1 m)
5	Length, mast down	78 ft. 9 in. (24 m)
6	Overall width of crawlers	8 ft. 7 in. (2.62 m)
7	Overall length of crawlers	23 ft. 0 in. (7.02 m)
8	Width of drill jacks	9 ft. 4 in. (2.85 m)
9	Length between jacks	23 ft. 5 in. (7.14 m)
10	Height to top of operator's cab	14 ft. 4 in. (4.36 m)

WARNING

This document is UNCONTROLLED when printed.

Uncontrolled When Printed

Power Unit

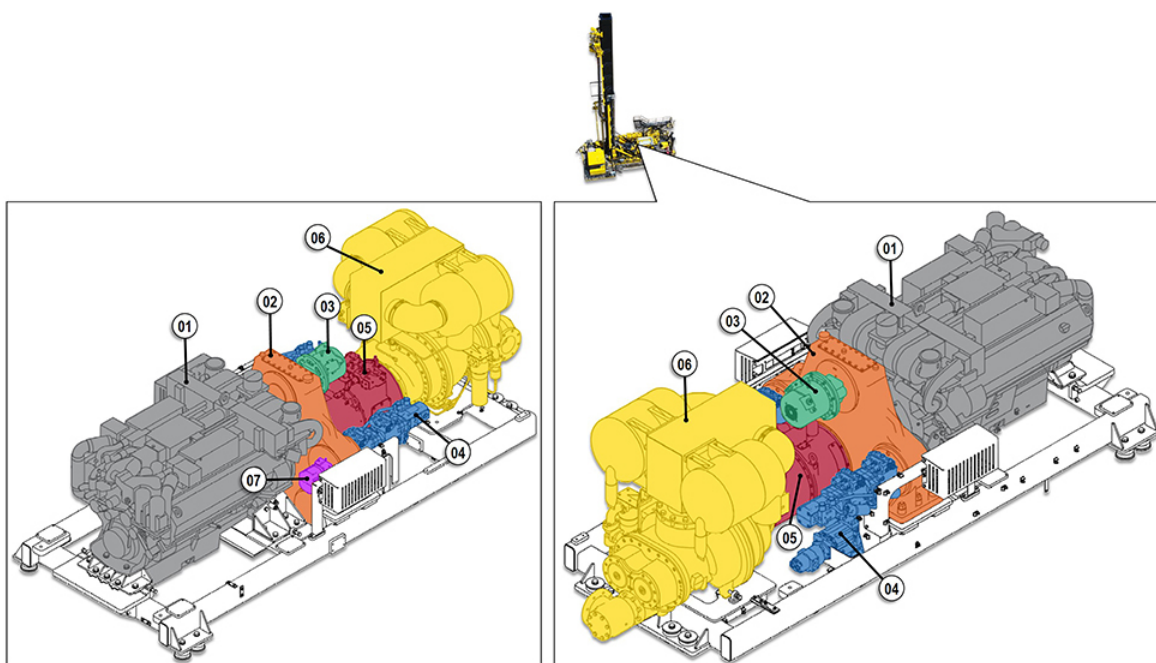
Refer to **Figure 4 : Power Unit**.

The power unit is centrally located on the deck of the drill. It's components provide the drill's mechanical, hydraulic, and electrical power.

The diesel engine (01, **Figure 4**) provides a single source of torque to drive the pump drive transmission (02, **Figure 4**). The pump drive transmission takes the torque from the diesel engine and distributes it to the 7 implements that are attached to it. The 400 amp alternator (03, **Figure 4**) generates all the 24 volt dc power that is used on the drill. The hydraulic pump assemblies (04, **Figure 4**) include both right and left main (propel, rotary, and carriage travel) hydraulic pump assemblies, the auxiliary hydraulic pump assembly, and the fan drive pump assembly. A torque converter (05, **Figure 4**) is used to couple the pump drive transmission to the air compressor (06, **Figure 4**). An oil circulation return pump (07, **Figure 4**) is attached to the forward facing side of the pump drive transmission.

Refer to the *Power Unit* system manual for descriptive and repair information of the power unit components.

Figure 4: Power Unit



01 - Diesel Engine

02 - Pump Drive Transmission (PDT)

03 - Alternator

04 - Hydraulic Pump Assemblies

05 - Torque Converter

06 - Air Compressor and Intake Filter Assembly

07 - Oil Circulation Pump

Pump Drive Transmission (PDT)

Refer to **Figure 5 : Pump Drive Transmission**. Note: The sides described correspond to the direction of the machine; i.e. the front side, faces towards the front of the machine.

WARNING

This document is UNCONTROLLED when printed.

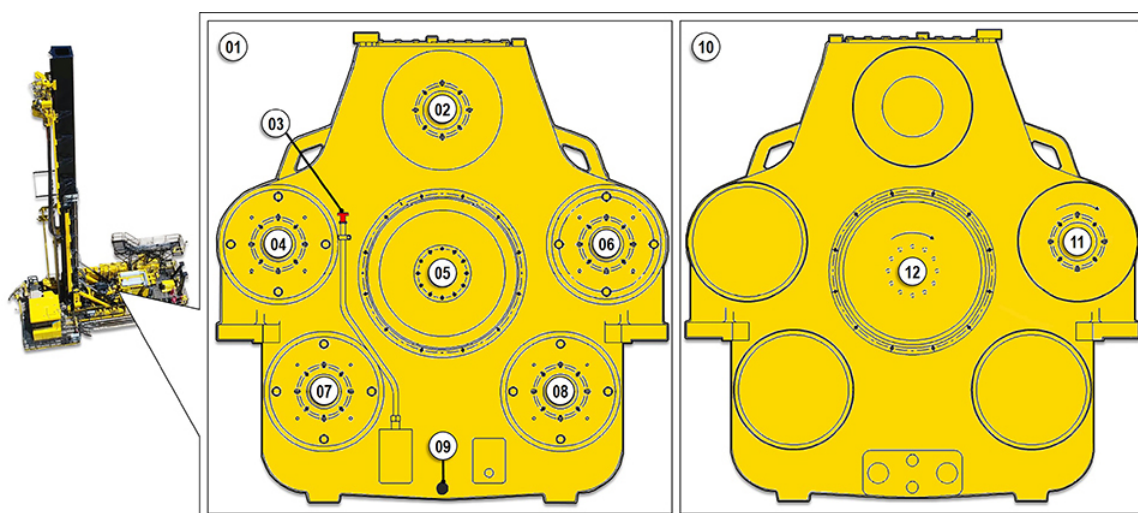
Introduction Description

The pump drive transmission (PDT) is directly coupled to the diesel engine. From a single input (12, [Figure 5](#)), it takes the torque that the diesel engine produces and divides it into seven different outputs. Each output is specifically geared to offer the optimal rotational speed for the implement attached to it. Six of the outputs face towards the rear of the machine, while one output faces forward.

The following components are located on the rear facing side of the pump drive transmission (01, [Figure 5](#)): The alternator (02, [Figure 5](#)) is attached to the top most output of the PDT. The left hydrostat pump assembly (04, [Figure 5](#)), the torque converter (05, [Figure 5](#)), and the right hydrostat pump assembly (06, [Figure 5](#)) are all attached to the middle outputs of the PDT. The fan drive hydraulic pump assembly (07, [Figure 5](#)) and auxiliary hydraulic pump assembly (08, [Figure 5](#)) are attached to the lower outputs of the PDT.

The following components are located on the front facing side of the pump drive transmission (10, [Figure 5](#)): The oil circulation pump (11, [Figure 5](#)) is attached to a middle output, adjacent to the diesel engine input (12, [Figure 5](#)).

Figure 5: Pump Drive Transmission



01 - Pump Drive Transmission (Rear Side)

02 - Alternator

03 - Oil Check Dipstick

04 - Left Hydrostat Pump Assembly

05 - Torque Converter

06 - Right Hydrostat Pump Assembly

07 - Fan Drive Hydraulic Pump Assembly

08 - Auxiliary Hydraulic Pump Assembly

09 - Drain Plug

10 - Pump Drive Transmission (Front Side)

11 - Oil Circulation Pump (Reverse Side)

12 - Diesel Engine Input

Main Air Compressor

Refer to [Figure 6 : Main Air Compressor \(Typical\)](#).

The main air compressor is a rotary screw type. It is powered by rotational energy delivered through the torque converter. The compressor provides all the air flow that is transmitted through the drill bit to cool and evacuate chips from the hole. It is the rear most assembly on the power unit, located in front of the drill's mast.

Available air compressors:

- Standard: 2,000 CFM @ 125 PSI (57 m³ @ 6.9 bar)
- High Output: 2,600 CFM @ 125 PSI (74 m³ @ 6.9 bar)

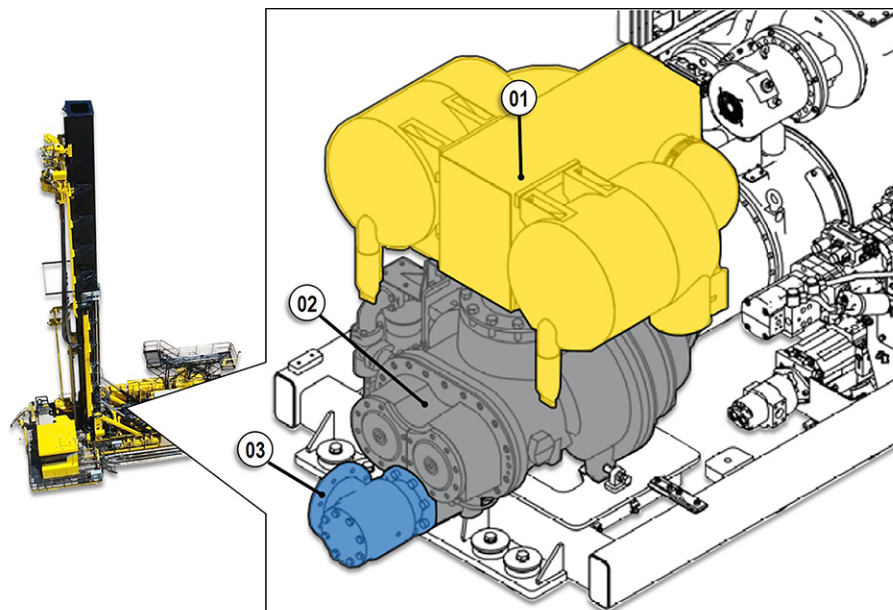
WARNING

This document is UNCONTROLLED when printed.

Uncontrolled When Printed

- Multi-Pass (2 Stage Compressor): 1,500 CFM @ 350 PSI (42 m³ @ 24 bar)

Figure 6: Main Air Compressor (Typical)



01 - Air Intake Filter Assembly

02 - Air Compressor

03 - Air Compressor Outlet to Check Valve

Lower Final Assembly (Undercarriage and Propel)

Refer to **Figure 7 : Undercarriage and Propel**.

The two crawler frames (**07, Figure 7**) are attached to the underside of the main frame by a fixed main axle (**08, Figure 7**) and an equalizer (pivot) axle (**04, Figure 7**). This arrangement increases stability and isolates the main frame from excessive loading when propelling over rough terrain.

The crawler shoes are of excavator design. There are 63 cleated crawler shoes per crawler track (**09, Figure 7**). The two crawler tracks are independently driven by drive sprockets (**02, Figure 7**) with planetary propel transmissions (**01, Figure 7**) directly bolted to the crawler frame. An individual propel hydraulic motor (**03, Figure 7**) powers each planetary transmission. The transmissions are nested within the drive sprocket for protection from travel damage in rough areas.

Each planetary transmission has an integral spring-actuated, hydraulically released wet-type multiple disc parking brake (SAHR).

An idler take-up cylinder (**06, Figure 7**) and idler roller (**05, Figure 7**) maintain constant tension on the crawler tracks.

Only to be used on occasion, the crawlers can be counter-rotated to provide maximum maneuverability for tight turns and rapid travel from point to point.

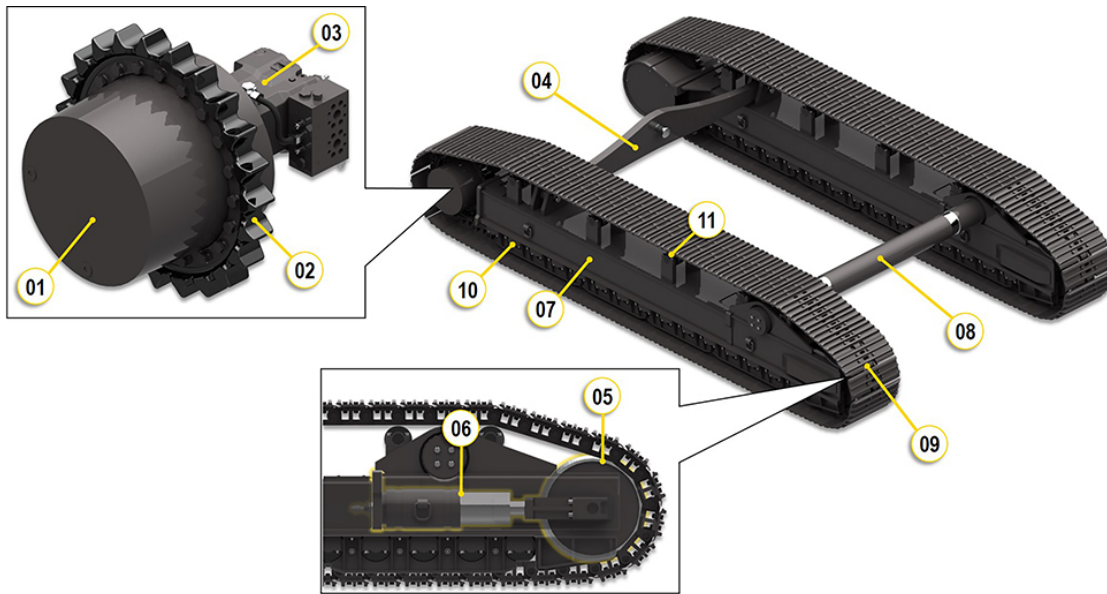
Refer to the Propel System manual for repair information of the propel system components.

WARNING

This document is UNCONTROLLED when printed.

Uncontrolled When Printed

Figure 7: Undercarriage and Propel



01 - Planetary Propel Transmission

02 - Drive Sprocket

03 - Propel Hydraulic Motor (1 Per Side)

04 - Equalizer (Pivot) Axle

05 - Idler Roller (1 Per Side)

06 - Idler Take-Up Cylinder (1 Per Side)

07 - Crawler Frame (1 Per Side)

08 - Main Axle

09 - Crawler Track (1 Per Side)

10 - Lower Rollers (14 Per Side)

11 - Upper Rollers (5 Per Side)

Rotary Carriage

Refer to [Figure 8 : Rotary Carriage](#).

The double-reduction, rotary gear case drives the drill bit and pipe string. Power is supplied by one rotary hydraulic motor (**06, Figure 8**) and is transmitted through an intermediate drive shaft to the rotary output drive shaft. The hydraulic motor is mounted on top of the gear case (**08, Figure 8**). Lubrication throughout the gear case is powered by an oil pump, mounted on top of the 2nd reduction pinion. Pressurized bit air for the pipe string is connected to the rotary output shaft through an air swivel (**09, Figure 8**), manifold (**13, Figure 8**), and piping. The rotary air seal also prevents water from entering the rotary gear case oil, when the drill is configured with water injection.

Power for lifting and lowering the rotary carriage is provided by two hoist/pulldown hydraulic motors (**03, Figure 8**). Dual hoist/pulldown planetary transmissions (**02, Figure 8**) multiply the torque applied by the hydraulic motors and transmit it to the dual pulldown pinions (**15, Figure 8**). The pulldown pinions interface with a rack, vertically mounted on the mast of the drill. On the opposite side of the rack, the backup rollers (**14, Figure 8**) support and counter the torque applied by the pulldown pinions. The backup rollers are provided with an eccentric arrangement for adjustment of the rack/pinion gear backlash and alignment with the mast. Contained inside each hoist/pulldown planetary transmission are hoist brakes. The hoist planetary transmission reservoirs (**01, Figure 8**) ensure a constant supply of fluid, is always available for the hoist brakes. The pulldown manifold (**10, Figure 8**) is used to direct hydraulic fluid, to each of the hoist/pulldown hydraulic motors.

The rotary hydraulic motor and a hoist/pulldown hydraulic motor both utilize rotary encoders (**07 and 04, Figure 8**) to communicate with the machine controller.

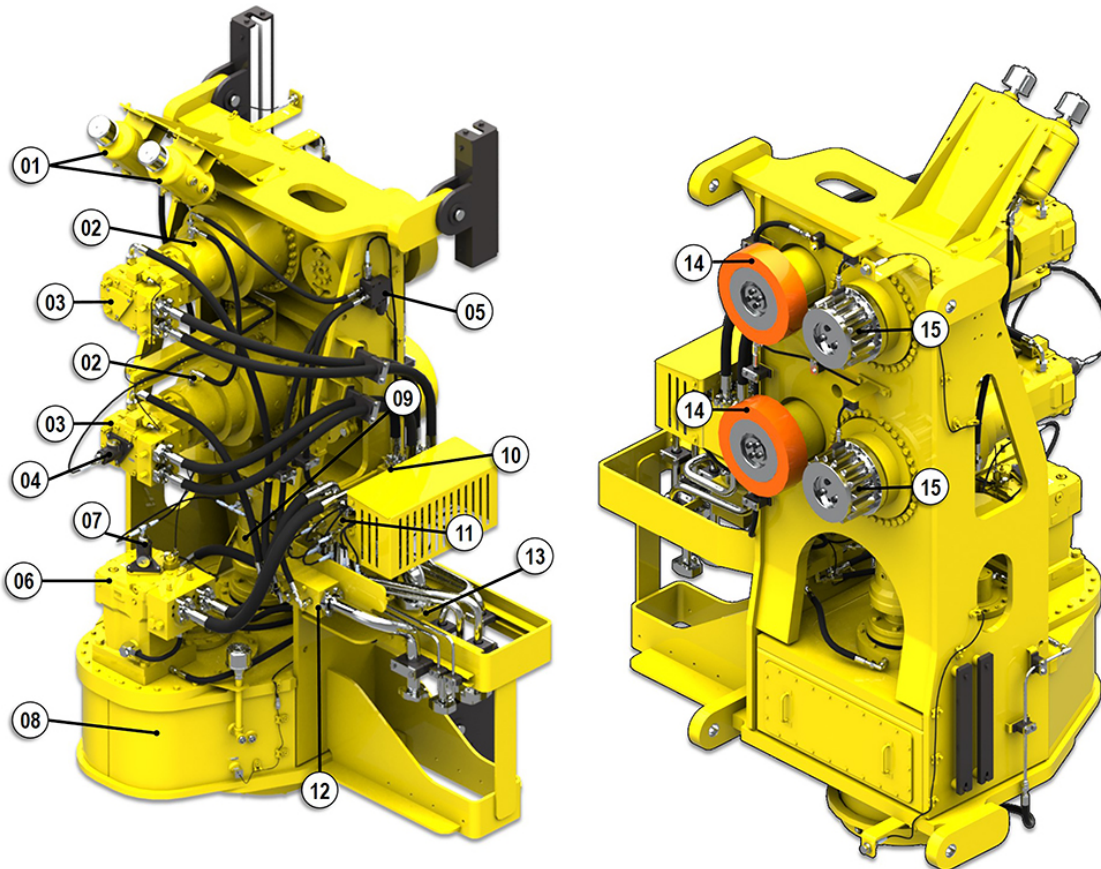
WARNING

This document is UNCONTROLLED when printed.

Uncontrolled When Printed

Refer to the *Rotary Machinery* system manual for repair information of the rotary carriage components or to the *Hoist/Pulldown Machinery* system manual for repair information of the hoist/pulldown components.

Figure 8: Rotary Carriage



- 01 - Hoist Planetary Transmission Reservoir
- 02 - Hoist/Pulldown Planetary Transmission
- 03 - Hoist/Pulldown Hydraulic Motor
- 04 - Hoist Encoder
- 05 - Brake Release Valve

- 06 - Rotary Hydraulic Motor
- 07 - Rotary Encoder
- 08 - Rotary Gear Case
- 09 - Air Swivel
- 10 - Pulldown Manifold
- 11 - Rotary Manifold

- 12 - Case Drain Manifold
- 13 - Main Air Manifold
- 14 - Backup Roller
- 15 - Pulldown Pinion

Mast and Mast Lock Assembly

The drill features a robust, solid boxer style mast. A simple, rack and pinion pulldown design is used to reduce maintenance effort while increasing drilling forces.

The mast safety sling ensures retention of a falling drill pipe without structural damage to the mast.

The mast assembly is raised and lowered by two hydraulic cylinders and is locked in the vertical position by two hydraulically actuated mast lock pins located on the drilling deck. The position of these pins is monitored by the machine controller.

WARNING

This document is UNCONTROLLED when printed.

Uncontrolled When Printed

Refer to the Mast manual for repair information of the mast components.

Drill Pipe Storage and Handling

The drill is equipped with a pipe carousel for single-pass drilling. The pipe carousel holds two sections of 27.5 foot (8.4 m) drill pipe.

For multi-pass drilling an optional four or six pot, pipe rack is available. Either pipe rack provides storage for 40 foot (12.2 m) sections of drill pipe.

A pipe positioner is used to steady the upper end of the drill pipe when installing or removing sections. When the jaw is engaged, it completely surrounds the section of drill pipe. The assembly is located on the left side of the drill mast, just above the mast accelerometer.

Refer to the Pipe Handling Equipment manual for repair information of the pipe storage and handling system components.

Slide Wrench

The drill is equipped with a retractable slide wrench, that is mounted on the drilling platform. The slide wrench is an essential tool for removing or installing drill string components. Additionally it is used to secure the drill string when propelling or lowering the mast.

Refer to the Pipe Handling Equipment manual for repair information of the deck tools.

Operator's Controls

The controls are arranged in functional groupings with frequently used controls located more closely to the operator. An operator's touch screen provides continuous information for the operator. Refer to the Touch Panel manual for details.

Hydraulic Systems

The hydraulic system is comprised of two major subsystems:

- Main (also referred to as Propel) Hydraulic System
- Auxiliary and Fan Drive Hydraulic System

Main (Propel, Rotary, & Carriage Travel) Hydraulic System

The main (propel) hydraulic system controls the propel functions and carriage rotary/travel functions, depending on which mode is selected.

The main (propel) hydraulic system is comprised of both right and left variable displacement, over the center, piston type pump assemblies and corresponding diverter manifolds.

Each pump assembly is made up of two variable displacement piston pump, and two fixed displacement gear pumps. All three main hydraulic systems (propel, rotary, and carriage travel) are arranged on a closed-loop hydrostatic drive configuration.

The rear diverter manifold assembly directs fluid to the right propel hydraulic motor and the carriage rotary hydraulic motor. The front diverter manifold assembly directs fluid to the left propel hydraulic motor and the carriage travel hydraulic motor. Carriage travel may also be referred to as hoist or pulldown (depending on direction).

Refer to the Hydraulic Systems manual for additional information and repair information of the propel hydraulic system. Also, refer to the Propel System manual for repair information of the propel system components.

WARNING

This document is UNCONTROLLED when printed.

Uncontrolled When Printed

Auxiliary and Fan Drive Hydraulic System

The auxiliary and fan drive hydraulic systems controls all the hydraulic functions, not covered by the main (propel, rotary, & carriage travel) hydraulic system.

The auxiliary hydraulic system is powered by two variable displacement hydraulic pumps, arranged in a tandem configuration. An auxiliary relief valve limits the maximum auxiliary hydraulic system pressure. The auxiliary hydraulic system is a load sense type. This arrangement provides that the auxiliary pump only produces the flow needed for any active hydraulic functions. This is the most efficient means of hydraulic power transmission, which minimizes engine fuel consumption.

The auxiliary hydraulic functions include:

1. All Leveling Jacks
2. Carriage Hoist Brake Release
3. VB5 Bit Handling (Bit Carousel Index, Bit Thread Motor)
4. VB4 Bit & Pipe Handling (Bit Basket, Slide Wrench, Pipe Support Roller, Bit Carousel Raise/Lower)
5. Water Injection Control
6. Bit Air Control
7. VB1 Mast Position (Mast Raise/Lower, Mast Lock, Tilt Lock)
8. VB2 Pipe Handling (Pipe Carousel Index, Pipe Carousel Swing, Pipe Positioner Swing/Jaw, Pipe Positioner Swing/Jaw Sequence Valve)
9. VB3 Breakout Wrench (Breakout Wrench Raise/Lower, Breakout Wrench Swing, Breakout Wrench Clamp/Break, Breakout Wrench Clamp/Break Sequence Valve)

The fan drive hydraulic system is powered by two variable displacement hydraulic pumps, arranged in a tandem configuration. A fan drive relief valve limits the maximum fan drive hydraulic system pressure. The fan drive hydraulic system is a load sense type. This arrangement provides that the fan drive pump produces only the flow needed to drive the fans at the speed needed (at that moment). This is the most efficient means of hydraulic power transmission, which minimizes engine fuel consumption.

Note: Separate from the auxiliary and fan drive hydraulic systems is an oil circulation pump. It is a fixed displacement gear pump that ensure a constant circulation of oil through the oil cooler, and to the hydraulic oil tank. It is part of the oil cooling circuit.

Refer to the Hydraulic Systems manual for detailed information of the auxiliary hydraulic system.

Water Injection System

The water injection system suppresses rock chips and drilling dust. It also helps keep the drill bit cool.

Refer to the Water Injection System manual for detailed information of the water injection system.

Automatic Lubrication System

The automatic lubrication system is powered by an electrically driven pump which is controlled by the machine controller. The system delivers an open gear lubricant from an on-board tank to the dual pulldown pinions on the rotary carriage. The system automatically dispenses at regular intervals. The operator can manually initiate a lubrication cycle from the operator's touch screen, when required.

Refer to the Lubrication Specifications and Requirements manual for detailed information of the automatic lubrication system.

Main Air System

The purpose of the main air system is to blow drilling debris out of the drill hole and to cool the drill bit bearings.

WARNING

This document is UNCONTROLLED when printed.

Uncontrolled When Printed

A compressor inlet valve controls the air drawn into the rotary screws. The valve is electrically closed during start-up. During operation, the inlet valves modulate air intake by means of electric control.

Refer to the Main Air System manual for detailed information of the main air system.

Towing System

CAUTION

Towing the drill requires an optional towing package to be installed. Do not attempt to tow a drill that does not have the towing package installed.

If towing becomes necessary and the towing package is not already on your drill, contact your service center representative or P&H Mining Equipment for assistance.

Dust Curtains

Refer to [Figure 9 : Dust Curtains](#).

Dust curtains (01, [Figure 9](#)) surround the area beneath the drilling platform to contain the dust and chips, created by drilling.

Figure 9: Dust Curtains



01 - Dust Curtains

WARNING

This document is UNCONTROLLED when printed.

Uncontrolled When Printed

Index

A

Applicability	11
Auxiliary and Fan Drive Hydraulic System	23

C

Copyright.....	7
----------------	---

D

Description	13
Drill Description	13
Drill Introduction	11
Drill Pipe Storage and Handling	22
Dust Curtains	24

G

General	13
---------------	----

H

Hydraulic Systems	22
-------------------------	----

L

Lower Final Assembly (Undercarriage and Propel).....	19
--	----

M

Main (Propel, Rotary, & Carriage Travel) Hydraulic System	22
Main Air Compressor	18
Main Air System	23
Mast and Mast Lock Assembly	21

O

Operator's Controls	22
---------------------------	----

P

Part Numbers.....	11
Power Unit.....	17
Preface.....	7
Pump Drive Transmission (PDT)	17

R

Revision Record.....	9
----------------------	---

WARNING

This document is UNCONTROLLED when printed.

Uncontrolled When Printed

Rotary Carriage.....	20
----------------------	----

S

Safety Data Sheets	11
Serial Number Location	11
Sign Maintenance	11
Slide Wrench	22

T

Towing System.....	24
--------------------	----

WARNING

This document is UNCONTROLLED when printed.

Uncontrolled When Printed

WARNING

This document is UNCONTROLLED when printed.
Before use, go to the ProManual App to determine if this is the latest version.
Komatsu disclaims all liability for use of uncontrolled versions.

Uncontrolled When Printed

Komatsu Mining Corp.

<https://mining.komatsu>



Product designs, specifications and/or data in this document are provided for informational purposes only and are not warranties of any kind. Product designs and/or specifications may be changed at any time without notice. The only warranties that apply to sales of products and services are standard written warranties, which will be furnished upon request.

Trademarks and service marks used herein are the property of Komatsu Ltd., Komatsu Mining Corp., or their respective owners or licensors.

© 2021 Komatsu Mining Corp. All rights reserved.

WARNING

This document is UNCONTROLLED when printed.
Before use, go to the ProManual App to determine if this is the latest version.
Komatsu disclaims all liability for use of uncontrolled versions.