

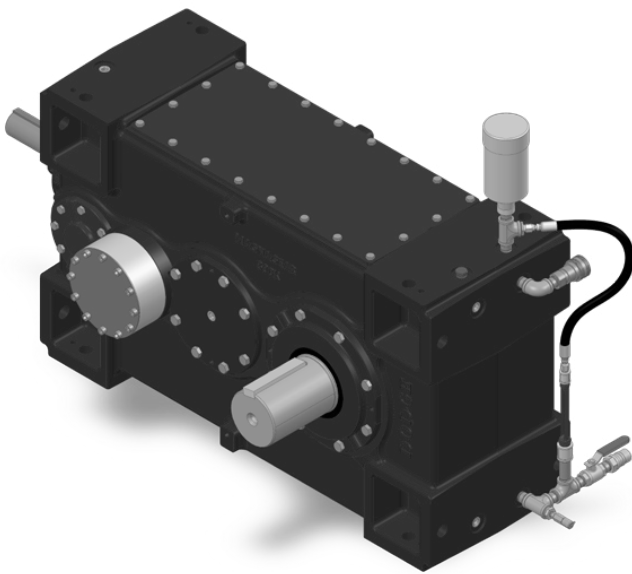


## MagnaGear G100 Reliability Kit Instruction Manual

These instructions must be read thoroughly before installation or operation. This instruction manual was accurate at the time of printing. Please see [dodgeindustrial.com](http://dodgeindustrial.com) for updated instruction manuals.

**WARNING:** To ensure the drive is not unexpectedly started, turn off and lock-out or tag power source before proceeding. Failure to observe these precautions could result in bodily injury.

**WARNING:** All products over 25 kg (55 lbs) are noted on the shipping package. Proper lifting practices are required for these products.



**WARNING:** Because of the possible danger to person(s) or property from accidents which may result from the improper use of products, it is important that correct procedures be followed. Products must be used in accordance with the engineering information specified in the catalog. Proper installation, maintenance and operation procedures must be observed. The instructions in the instruction manuals must be followed. Inspections should be made as necessary to assure safe operation under prevailing conditions. Proper guards and other suitable safety devices or procedures as may be desirable or as may be specified in safety codes should be provided, and are neither provided by Dodge® nor are the responsibility of Dodge. This unit and its associated equipment must be installed, adjusted and maintained by qualified personnel who are familiar with the construction and operation of all equipment in the system and the potential hazards involved. When risk to persons or property may be involved, a holding device must be an integral part of the driven equipment beyond the speed reducer output shaft.

### INTRODUCTION

MagnaGear Reliability Kits include the following: quick disconnects for oil circulation/filtration, oil sampling tube, E-Z drain valve, appropriate pipe fittings (there may be extra fittings included in the kit depending on specific configuration), extended oil sight tube and a desiccant breather.

Dodge has illustrated four potential configurations for installation of the reliability kit components. It is possible that all components of the reliability kit may not work with all MagnaGear accessories or configurations. These recommended configurations will account for most applications and installation options. All configurations are shown with right angle MagnaGear reducers. When the reliability kit will be used with other Dodge accessories made for MagnaGear, then only specific configurations can be followed. Please see below examples of this.

- If a shaft fan is installed on the gearbox, then the reliability kit can only be installed on the output facing side.
- If an electric fan is installed on the gearbox and a tunnel housing is not used, then the reliability kit can only be installed on the input facing side.
- If a tunnel housing is used with or without a shaft fan, then the reliability kit can only be installed on the output facing side.
- If a tunnel housing is used with an electric fan, then the standard reliability kit cannot be used. Please contact Application Engineering for more details.

Each customer application and installation will differ, and this setup could be changed by the customer according to these unique situations. For additional guidance in unique installations of these reliability kits, please contact Application Engineering.

The main components of the reliability kits are shown in the exploded view as seen in Figure 1. This exploded view is representative of installing the kit on the output side of the gearbox. However, this can be installed on the input side as well. There are also different locations to install the breather components and female quick disconnect components that will be discussed in the steps following. Individual pipe fittings are not called out due to various types/lengths needed for different kits. See schematic at the end of this manual for more information.

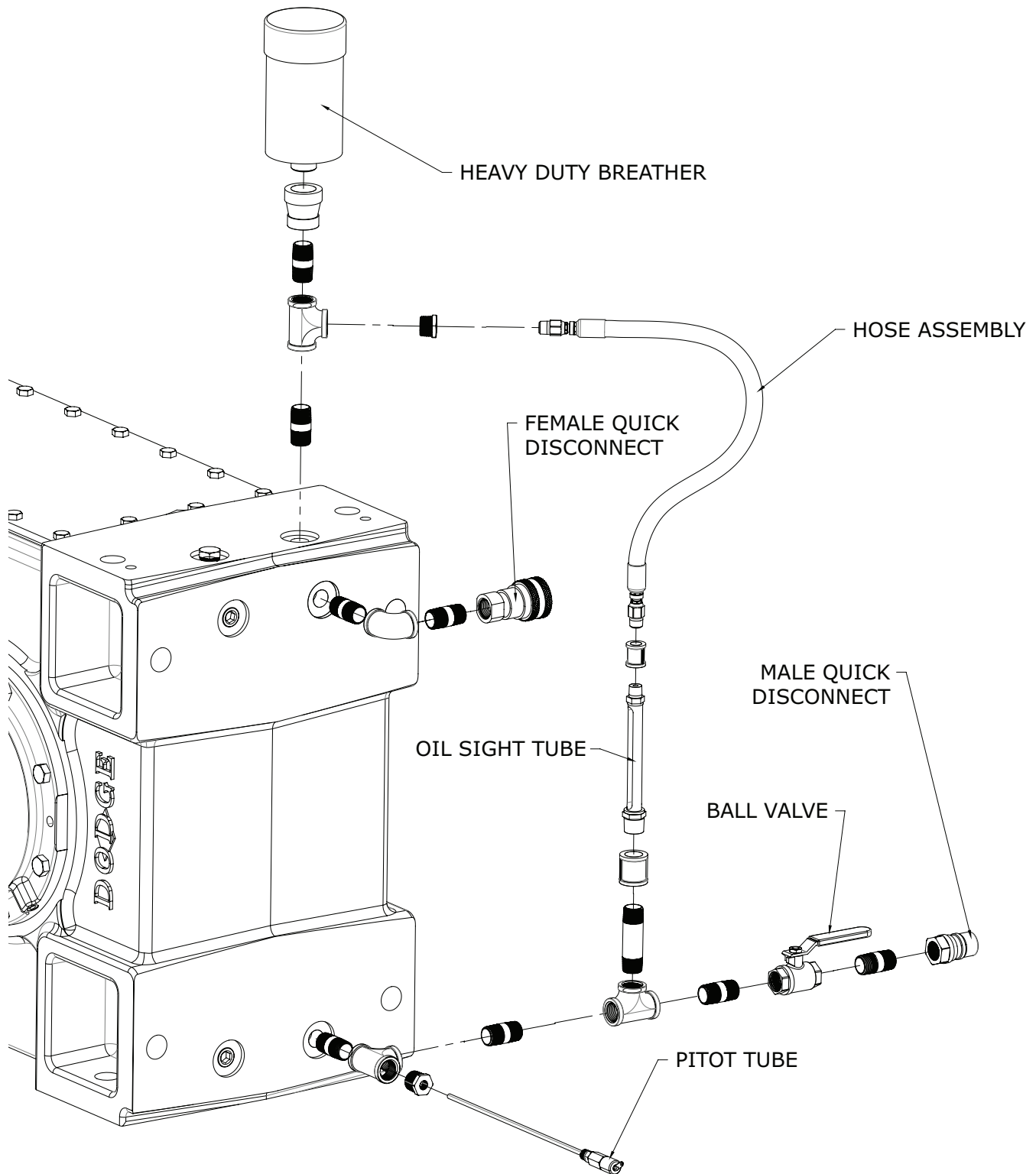


Figure 1 - Reliability Kit Components

## INSTALLATION

**NOTE:** Use pipe joint compound on all threaded connections that do not already have sealant on them.

**NOTE:** Tools required for installation: a combination of allen wrenches, pipe wrenches, adjustable wrenches, and/or channel lock pliers to remove plugs and install pipe fitting from the kit. Tighten all connections so that they are oil tight.

**NOTE:** Care must be taken when installing the brass sight tube and hose. Overtightening the fittings on the sight tube can cause damage.

**NOTE:** If the gearbox has been in service, the oil must be drained prior to installing the reliability kit components.

## Installing Oil Sampling Pitot Tube Components

A precut pitot tube, 1/4" NPT adapter, 3/4" NPT tee and pipe nipple are provided. The pitot tube will only need to be modified for two of the G100 configurations (see schematic at end of this manual for more information). All other configurations can use the pitot tube as is. Remove the pipe plug from the hole location where the pitot tube components will be installed and proceed to install all components to the reducer as shown in Figure 2.

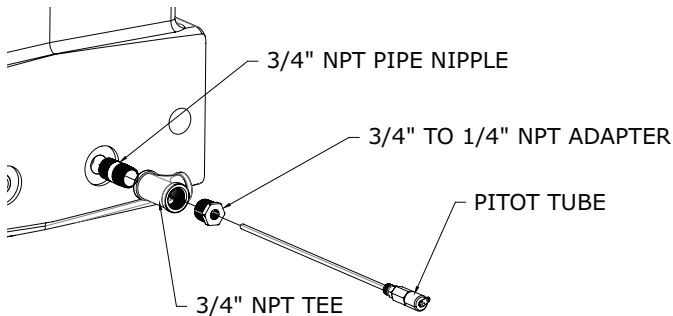


Figure 2 - Pitot Tube Components

The reliability kit includes a sampling port adapter that can be added to an existing sampling vacuum pump tubing. Oil sampling collection supplies are not included. When taking a sample, this port adapter screws onto the end of the pitot tube.

Oil sampling collection components not supplied in kit. Please contact pitot tube and sampling port manufacturer to purchase.

**NOTE: If installing the reliability kit on input-facing side while using a coupling guard, there will be a guideline for a cutout section on the swingbase coupling guard for the pitot tube. A cutting tool will need to be used to cut this section out to fit the pitot tube. If more detail is needed for installing the pitot tube with use of the coupling guard, please contact Dodge Application Engineering.**

## Installing E-Z Drain and Male Quick Disconnect (QD) Components

E-Z drain and male QD components for the kit are shown in Figure 3 and are a continuation leading from the tee coming from the pitot tube component installation in the previous instruction. Proceed to install all components to the reducer as shown in Figure 3. The stack-up of components are installed facing away from the solid output shaft or driving equipment facing side. The 3/4" NPT pipe nipples included in this section of this install step will vary in length depending on size of gearbox and configuration. This is due to clearance needed based on the specific configuration. Please follow the appropriate schematic for more detailed information.

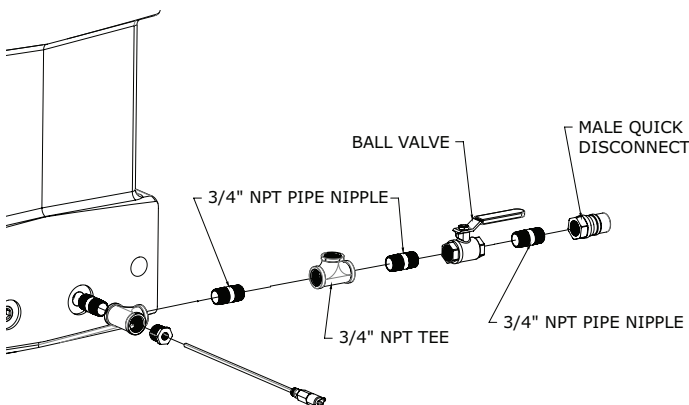


Figure 3 - E-Z Drain and Male QD Components

## Installing Oil Sight Tube and Hose Assembly Components

Oil sight tube and hose assembly components for the kit are shown in Figure 4 and are a continuation leading from the tee coming from the E-Z drain and Male QD component installation in the previous instruction. All G100 configurations do not require a 3/4" NPT pipe nipple and coupling between the oil sight tube and connecting 3/4" NPT tee. The oil sight tube will connect directly to the tee. There is a different component orientation for the G100 configurations from the oil sight tube to the connection of the hose assembly and this is detailed in the following section. Proceed to install all components to the reducer as shown in Figure 4. The 3/4" NPT pipe nipples included in this install step will vary in length depending on the configuration. This is due to clearance needed based on the specific configuration. Please follow the appropriate schematic for more detailed information. Orientate the oil sight tube window to face a convenient viewing location for oil level verification.

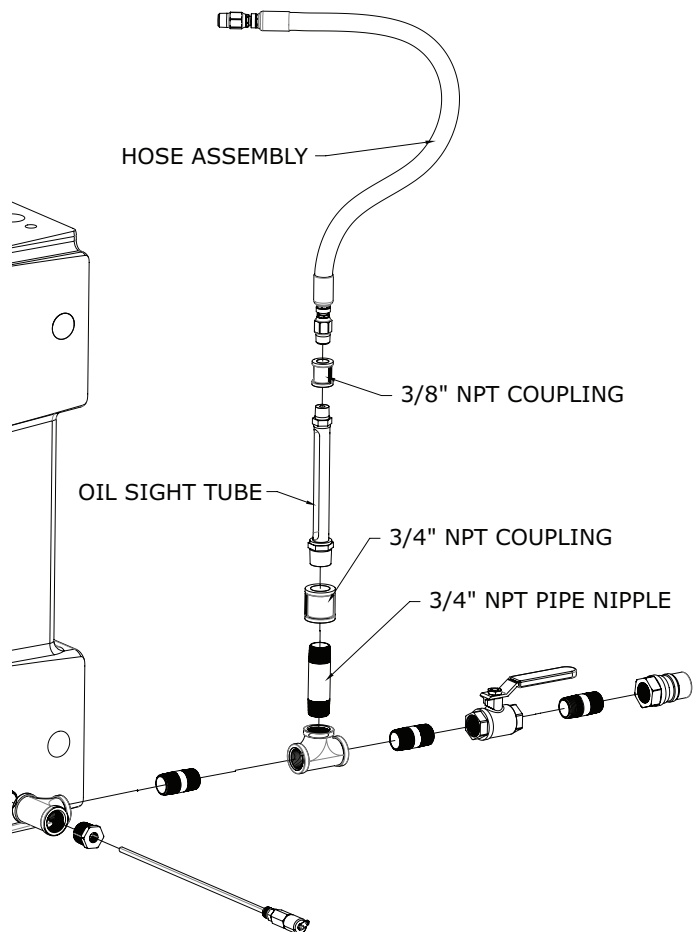
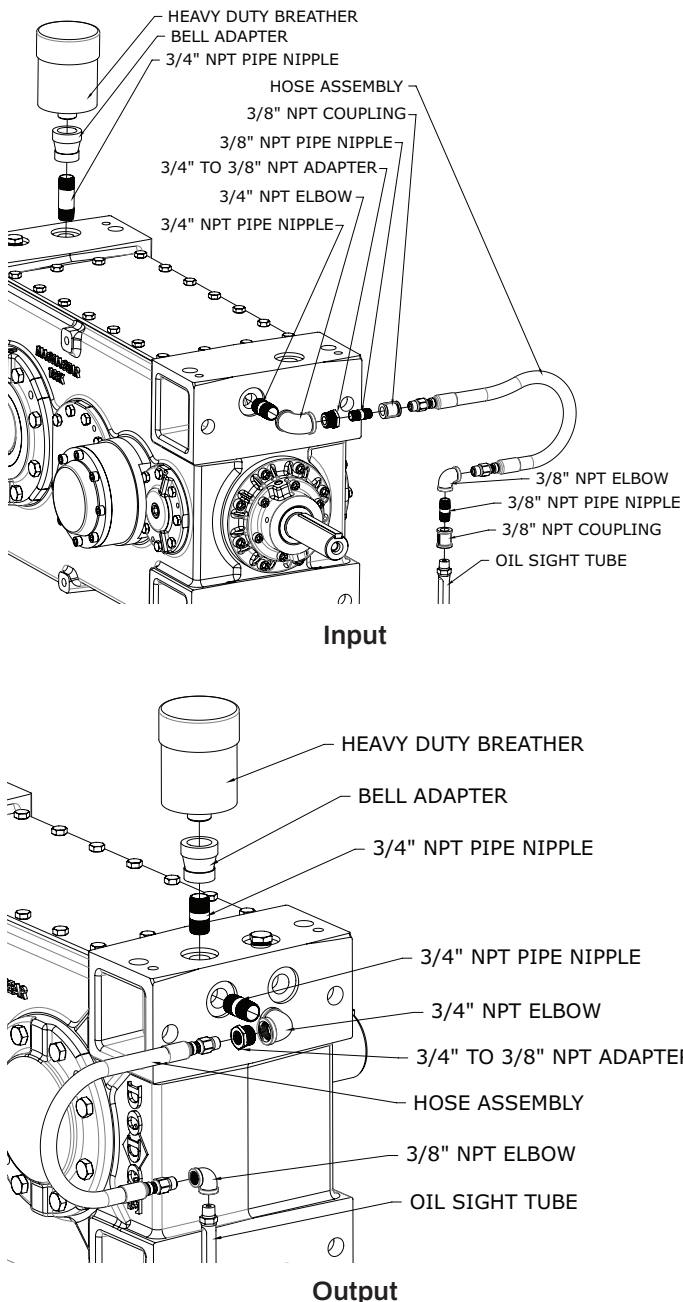


Figure 4 - Oil Sight Tube and Hose Assembly Components

## Installing Heavy Duty Breather Components

Heavy duty breather components for the kit are shown in Figure 5 and are a continuation leading from the hose assembly in the previous instruction. There are two locations for installing these components. Figure 5 shows an input and output side configuration example. This shows different connection locations for the breather components as well as pipe connections from the oil sight tube to the housing connection. Proceed to install all components to the reducer as shown in Figure 5. The 3/4" NPT pipe nipples included in this section of this install step will vary in length depending on size of gearbox and configuration. This is due to clearance needed based on the specific configuration. Please follow the appropriate schematic for more detailed information.

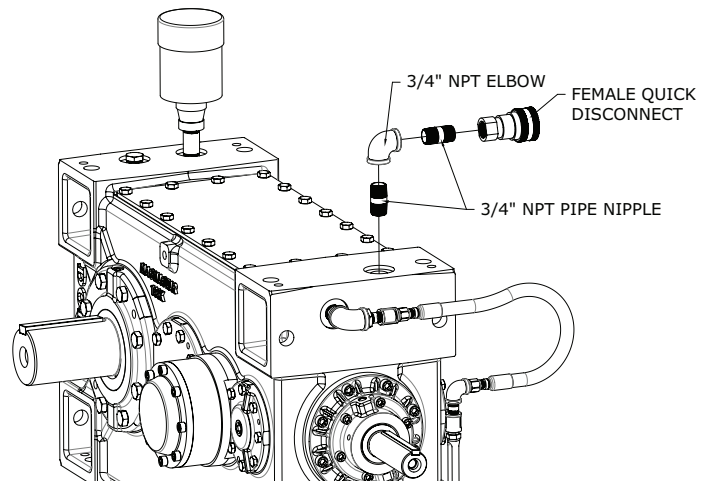
**NOTE:** Female quick disconnect components removed from view in Figure 5 for clarity purposes.



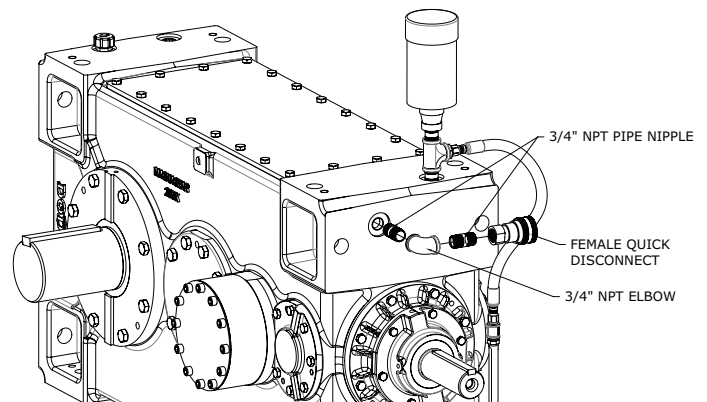
**Figure 5 - Heavy Duty Breather and Oil Sight Tube Components**

## Installing Female Quick Disconnect (QD) Components

Female quick disconnect components for the kit are shown in Figures 6 and 7. Figure 6 shows the components coming from the top threaded hole on the reducer housing. Figure 7 shows the components coming from the other front facing threaded hole on the reducer housing. The stack-up of components are installed facing away from the solid output shaft or driving equipment facing side. Proceed to install all components to the reducer as shown in Figures 6 or 7. The 3/4" NPT pipe nipples included in this section of this install step will vary in length depending on size of gearbox and configuration. This is due to clearance needed based on the specific configuration. Please follow the appropriate schematic for more detailed information.



**Figure 6 - Female Quick Disconnect Components Top Facing (Input Side Only)**

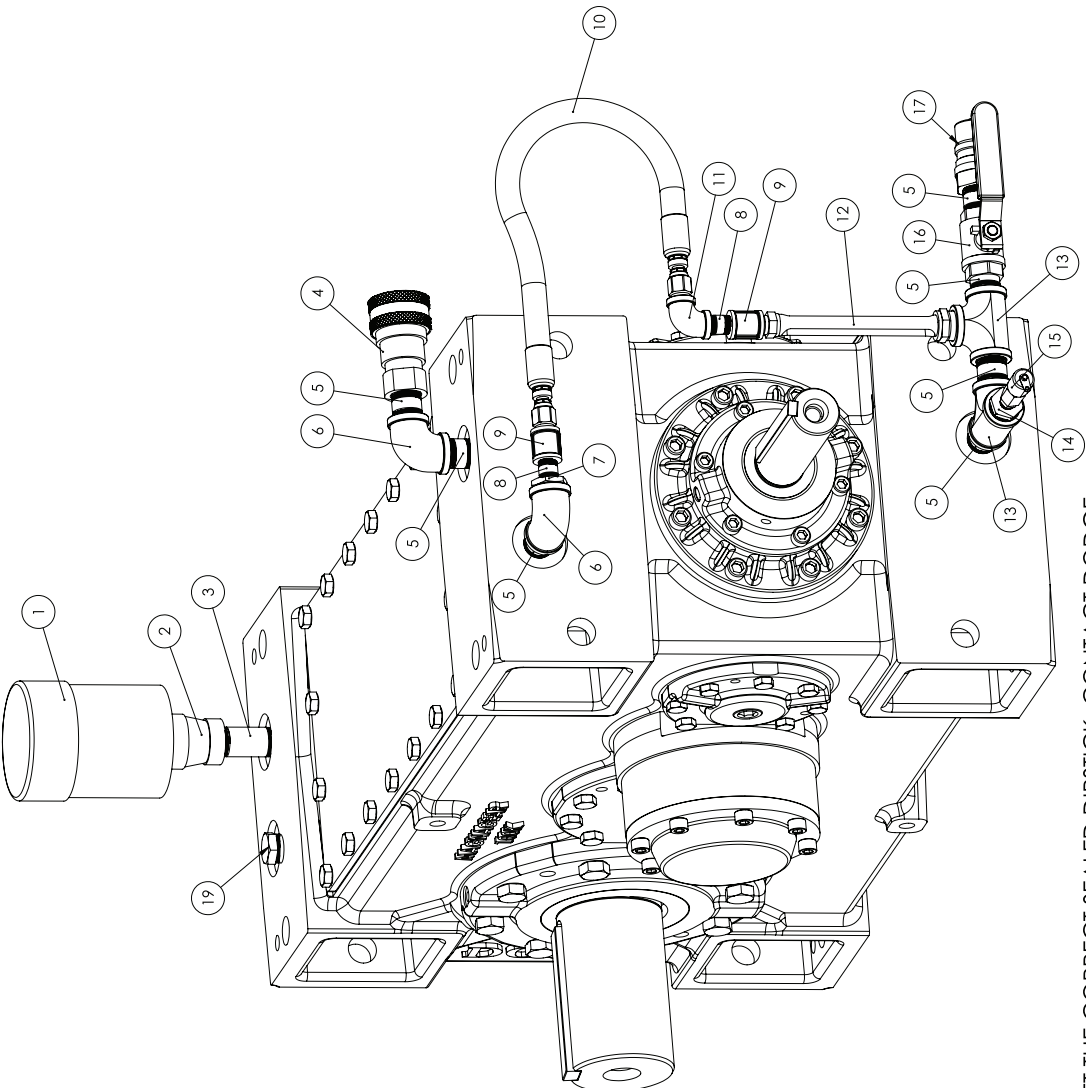


**Figure 7 - Female Quick Disconnect Components Front Facing (Output Side Only)**

Once all kit components have been installed, fill the MagnaGear with the appropriate amount of oil. Refer to the MagnaGear manual MN1696 (sizes G100-G390 and G600) or MN1667 (sizes G525, G700 and G920) for additional lubrication information. Verify there are no leaks.

The pages following in this manual are examples of Reliability Kit assembly drawings of all MagnaGear G100 configurations.

# **G100 LEFT HAND CONFIGURATION (COMPONENTS INSTALLED MAINLY ON INPUT SIDE)**

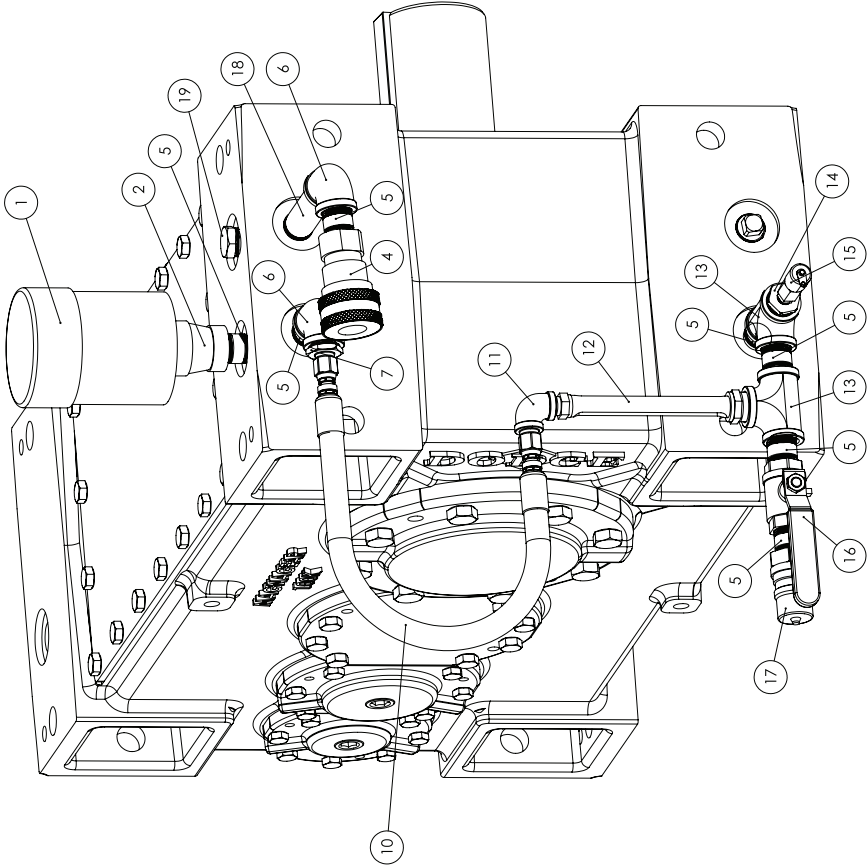


ITEM #	P/N	DESCRIPTION	QTY
1	964365	HYDRA-LOCK BREATHER	1
2	A38814	BELL ADAPTER	1
3	034530024EC	3/4" NPT X 3" PIPE NIPPLE	1
4	965908	FEMALE QUICK DISCONNECT	1
5	034530016EC	3/4" NPT X 2" PIPE NIPPLE	7
6	034650005AC	3/4" NPT (90° ELBOW)	2
7	430082	3/4" TO 3/8" NPT ADAPTER	1
8	034530012CC	3/8" NPT X 1-1/2" PIPE NIPPLE	2
9	034630003AC	3/8" NPT PIPE COUPLING	2
10	454631-22	HOSE ASSEMBLY	1
11	034650003AC	3/8" NPT (90° ELBOW)	1
12	967082	OIL SIGHT TUBE	1
13	034720005AC	3/4" NPT TEE	2
14	453304	3/4" TO 1/4" NPT ADAPTER	1
15	453303-12 (SEE NOTE 2)	PITOT TUBE	1
16	095967	3/4" BALL VALVE	1
17	965930	MALE QUICK DISCONNECT	1
18	034530040EC	3/4" NPT X 5" PIPE NIPPLE	0
19	SEE NOTES	SEALED DIPSTICK	0

- NOTES:
1. TO GET THE CORRECT SEALED DIPSTICK, CONTACT DODGE WITH ALL THE GEARBOX AND MOTOR INFORMATION.
  2. MUST CUT 7-1/2" OFF PROVIDED PITOT TUBE TO INSTALL ON THIS SIDE OF THE REDUCER
  3. ITEM 15 AND 455003 SAMPLING PORT ADAPTER (NOT SHOWN) COME FROM TRICO CORPORATION.  
SAMPLE COLLECTION SUPPLIES NOT PROVIDED.



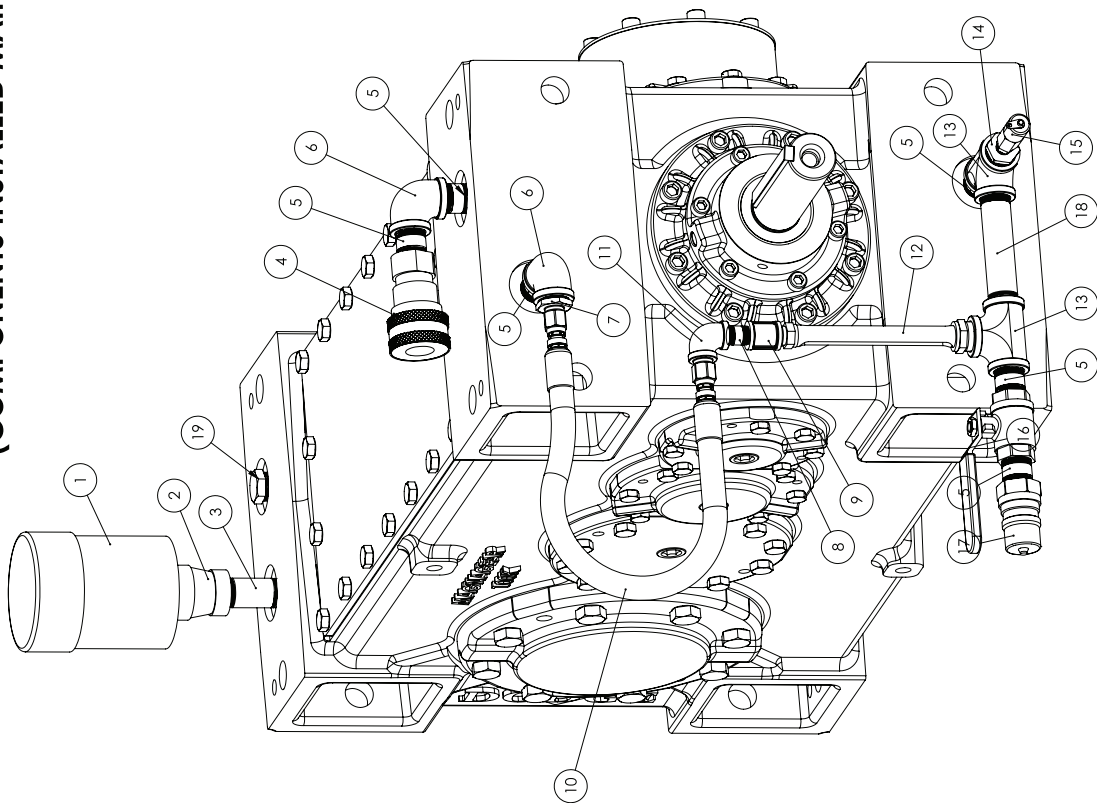
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(COMPONENTS INSTALLED MAINLY ON OUTPUT SIDE)**



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4	965908	FEMALE QUICK DISCONNECT	1
5	034530016EC	3/4" NPT X 2" PIPE NIPPLE	7
6	034650005AC	3/4" NPT (90° ELBOW)	2
7	430082	3/4" TO 3/8" NPT ADAPTER	1
8	034530012CC	3/8" NPT X 1-1/2" PIPE NIPPLE	0
9	034630003AC	3/8" NPT PIPE COUPLING	0
10	454631-22	HOSE ASSEMBLY	1
11	034650003AC	3/8" NPT (90° ELBOW)	1
12	967082	OIL SIGHT TUBE	1
13	034720005AC	3/4" NPT TEE	2
14	453304	3/4" TO 1/4" NPT ADAPTER	1
15	453303-12	PITOT TUBE	1
16	095967	3/4" BALL VALVE	1
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**G100 RIGHT HAND CONFIGURATION  
(COMPONENTS INSTALLED MAINLY ON INPUT SIDE)**



ITEM #	P/N	DESCRIPTION	QTY
1	964365	HYDRA-LOCK BREATHER	1
2	A38814	BELL ADAPTER	1
3	034530024EC	3/4" NPT X 3" PIPE NIPPLE	1
4	965908	FEMALE QUICK DISCONNECT	1
5	034530016EC	3/4" NPT X 2" PIPE NIPPLE	6
6	034550005AC	3/4" NPT [90° ELBOW]	2
7	430082	3/4" TO 3/8" NPT ADAPTER	1
8	034530012CC	3/8" NPT X 1-1/2" PIPE NIPPLE	1
9	034530003AC	3/8" NPT PIPE COUPLING	1
10	454631-22	HOSE ASSEMBLY	1
11	034550003AC	3/8" NPT [90° ELBOW]	1
12	967052	OIL SIGHT TUBE	1
13	034720005AC	3/4" NPT TEE	2
14	453304	3/4" TO 1/4" NPT ADAPTER	1
15	453303-12 (SEE NOTE 2)	PITOT TUBE	1
16	095967	3/4" BALL VALVE	1
17	965930	MALE QUICK DISCONNECT	1
18	034530040EC	3/4" NPT X 5" PIPE NIPPLE	1
19	SEE NOTES	SEALED DIPSTICK	0

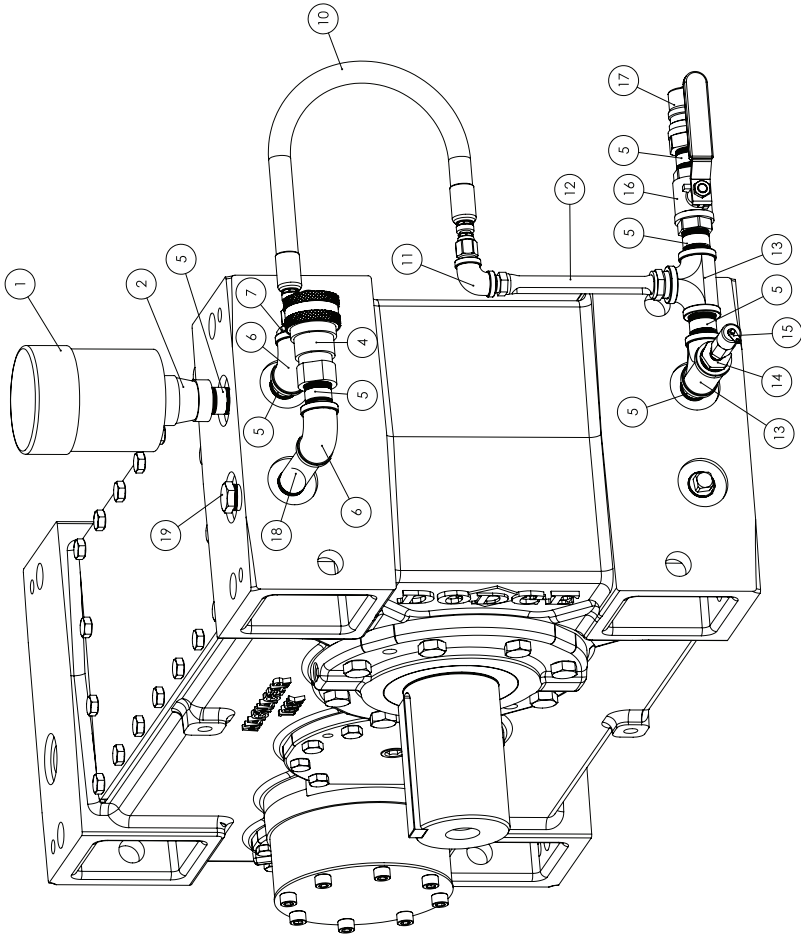
**NOTES:**

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2. MUST CUT 7-1/2" OFF PROVIDED PITOT TUBE TO INSTALL ON THIS SIDE OF THE REDUCER
3. ITEM 15 AND 455003 SAMPLING PORT ADAPTER (NOT SHOWN) COME FROM TRICO CORPORATION.  
SAMPLE COLLECTION SUPPLIES NOT PROVIDED.

Dodge Industrial, Inc.  
1061 Holland Road  
Simpsonville, SC 29681  
+1 864 297 4800

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AN RBC BEARINGS COMPANY

G100 RIGHT HAND CONFIGURATION  
(COMPONENTS INSTALLED MAINLY ON OUTPUT SIDE)



- NOTES:
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  - 1. WITH ALL THE GEARBOX AND MOTOR INFORMATION.
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8	034530012CC	3/8" NPT X 1-1/2" PIPE NIPPLE	0
9	034630003AC	3/8" NPT PIPE COUPLING	0
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