

# ***dodson***<sup>®</sup>

## **INSTALLATION INSTRUCTIONS**

**GR6 FWD REBUILD**

**DMS-00-0005 REV 007**

**14 FEBRUARY 2024**

**PREPARED BY: JARROD HAMMOND  
DATE: 10OCT2023**

**RELEASED BY:   
DATE: 14FEB2024**

**REVISION UPDATE NOTES:**

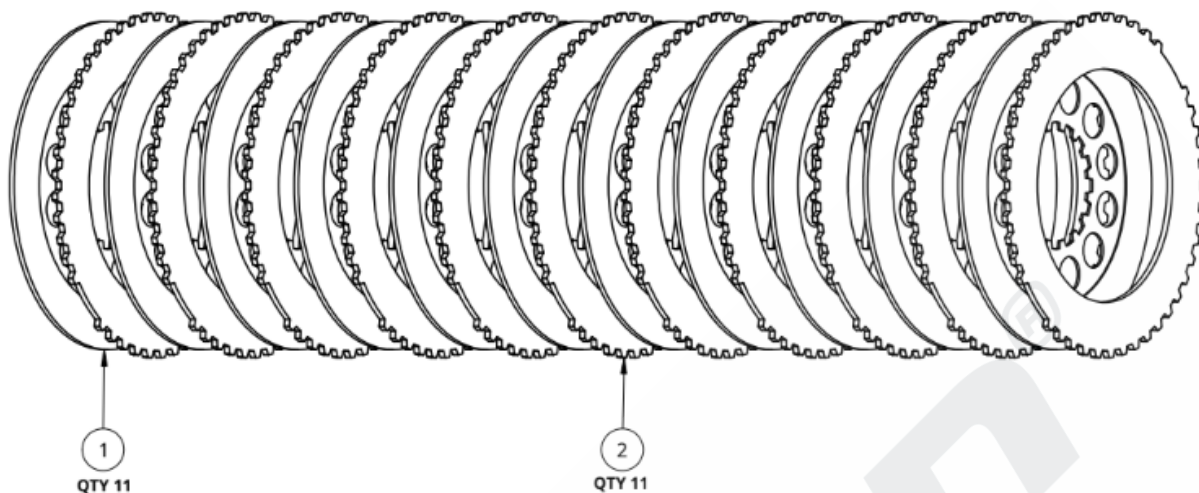
The following table indicates the changes we have made in either the disassembly or assembly of the product you have received. All changes are indicated by a revision bar in the margin.

If you have any questions email us at [technical@dodsonmotorsport.com](mailto:technical@dodsonmotorsport.com)

<b>Revision</b>	<b>Date</b>	<b>Description</b>
REV.007	14FEB2024	<ul style="list-style-type: none"><li>- Replaced EM bearing puller with new version.</li><li>- Updated Contents List and added 9-plate version.</li><li>- Clarified stack heights and added a tolerance.</li><li>- Rewrote multiple steps for clarity and added reference images.</li><li>- Corrected DMS# for 10 Plate Stack</li></ul>
REV.006	04FEB2022	<ul style="list-style-type: none"><li>- Complete rewrite of instructions</li></ul>

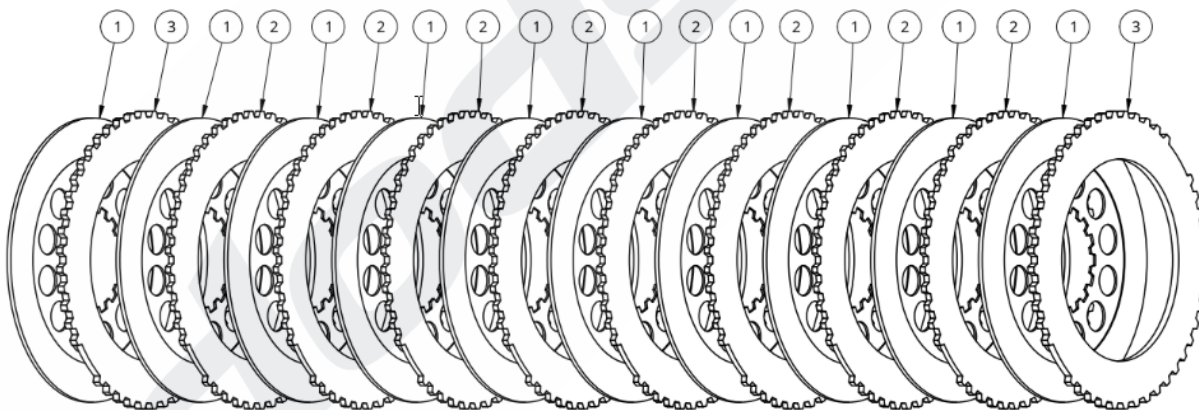
## GR6 FWD CLUTCH KIT CONTENTS

### 11-PLATE (DMS-8043)



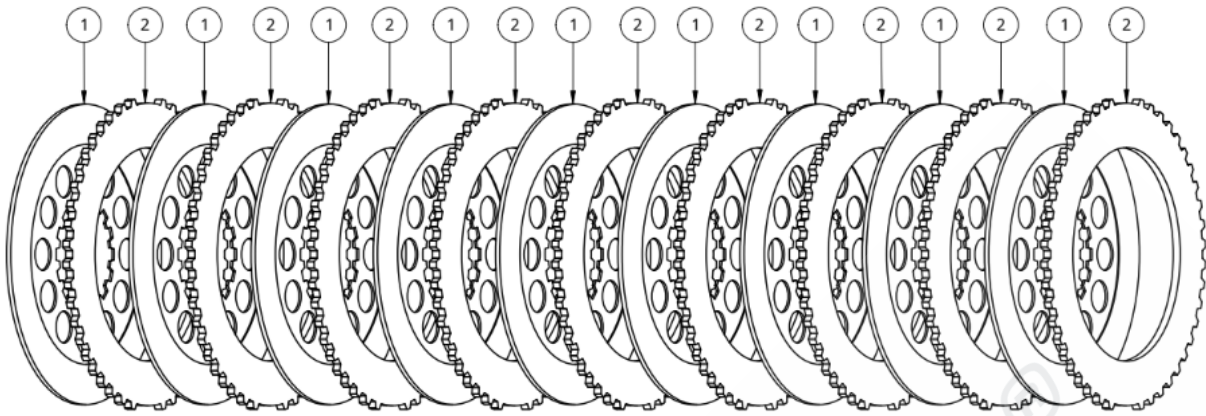
Item Number	Part Name	DMS Code	Qty
1	FWD Clutch Friction - 1.50mm	DMS-3847	11
2	FWD Clutch Steel - 1.80mm	DMS-10093	11

### 10-PLATE (DMS-8088)



Item Number	Part Name	DMS Code	Qty
1	FWD Clutch Friction - 1.50mm	DMS-3847	10
2	FWD Clutch Steel - 2.00mm	DMS-4389	8
3	FWD Clutch Steel - 2.50mm	DMS-4516	2

## 9-PLATE (DMS-8505)



Item Number	Part Name	DMS Code	Qty
1	FWD Clutch Friction - 1.50mm	DMS-3847	9
2	FWD Clutch Steel - 2.50mm	DMS-4516	9

## OPTIONAL PARTS

- GR6 FWD Clutch Fluid - 200ml (DMS-2616)
- GR6 FWD Billet Clutch Housing (DMS-8042)
- GR6 FWD Ball Retainer Plate (DMS-8045)
- GR6 FWD Housing Nut (DMS-7144)
- GR6 FWD Housing Lower Seal (DMS-1936)
- GR6 FWD Housing O-Ring (DMS-1937)
- GR6 FWD Output Shaft Seal (DMS-1938)
- GR6 FWD Clutch Housing Electro Magnetic Bearing (DMS-1422)
- GR6 FWD Clutch Housing Bearing (DMS-1433)
- GR6 FWD Output Bearing Upgrade Kit (DMS-7910)

## NOTES

- These instructions are valid for the 9, 10 or 11 plate clutch kit.
- The **Dodson FWD Clutch Tool Kit (DMS-2329)** is recommended.
  - Please note that this tool kit is already included in the **Dodson GR6 Full Pro Dealer Tool Kit (DMS-2332)**.
- The optional parts are available from Dodson.  
To order, please contact [sales@dodsonmotorsport.com](mailto:sales@dodsonmotorsport.com).

## GR6 FWD CLUTCH REBUILD INSTRUCTIONS DISASSEMBLY

### STEP 1

Remove the FWD clutch (ETS) wiring plug held by a spring clip and the bracket inside the housing, then remove the output flange nut and the flange itself. Use the Dodson special tool (DMS-10094) to hold the flange when loosening the nut.



### STEP 2

Carefully remove the FWD clutch unit from the main transmission housing and clamp the output spline in a vise using **soft jaws**.



## STEP 3

Remove electromagnet retaining circlip using suitable circlip pliers.

Install the Dodson puller and spacer as shown below (all supplied in the DMS-2329 toolkit).

**NOTE: tighten the cap screws finger tight only.**

Then use the puller to remove the electromagnet from the assembly.



## **STEP 4**

Use a punch to crack the lock nut then loosen it. Use the Dodson special tool (DMS-2328) to remove the electromagnet/seal housing (two pins on the tool slot into the blind holes in the housing and a large screwdriver can be slotted through the holes on the top).

Drain the fluid.



## **STEP 5**

Remove the bearing, energiser clutch, ramps, balls, frictions and steels.

Check the conditions of the bearings, ramp plates, energiser plates and the balls.



## **ASSEMBLY**

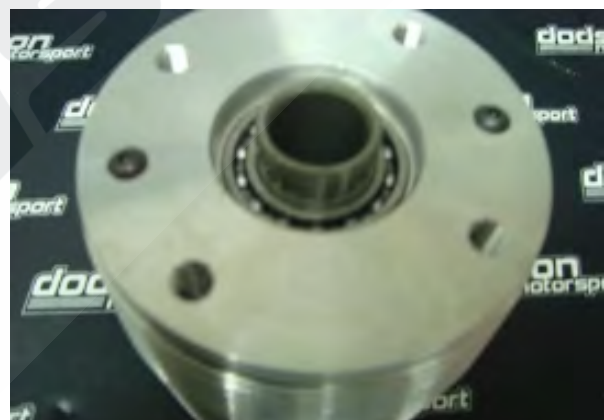
### **STEP 1**

If reusing the OE housing, skip to **Step 2**.

If using the Dodson FWD Billet Clutch Housing (**DMS-8042**), remove the output shaft and then remove the shaft and bearing from original housing. Install input shaft and OE bearing (or the replacement DMS-1433 bearing) into the new housing.

NOTE: Warming up the housing using a heat gun may be necessary.

Inspect the o-ring on the output shaft and then fit it to the housing using the bolts supplied.



### **IMPORTANT NOTE**

If also using the Dodson FWD Output Bearing Upgrade Kit (**DMS-7910**), follow the Dodson **GR6 FWD Output Bearing Upgrade Instructions (DMS-00-0042)** before refitting the output shaft.



## STEP 2

If only rebuilding or checking the condition of the FWD clutch, check the stack height of the clutch.

**The stack height of a used FWD clutch should not be lower than 35.00mm.**



If assembling a new kit, the stack height specification is outlined below for reference.

- 11-Plate kit stack height - 36.30 +/- 0.20mm
- 10-Plate kit stack height - 36.00 +/- 0.20mm
- 9-Plate kit stack height - 36.00 +/- 0.20mm

## STEP 3

Install the friction and steels. **Start the installation by placing a steel in first, make sure that the oil passages on the steels line up with the passages on the housing and try to keep the oil holes in the friction plate lined up as well.**



**Important. Top plate must be a friction plate.**

## STEP 4

Install ramp plate, the thick energiser plate & balls - make sure balls are not damaged or discoloured.

The Dodson FWD Ball Retainer Plate (DMS-8045), shown below, which replaces the thick energiser plate and adds the ball retaining feature is highly recommended and the balls are known to fall out of their ramps causing a FWD clutch or other failures.



Common damage from balls popping out shown below for reference.



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## STEP 5

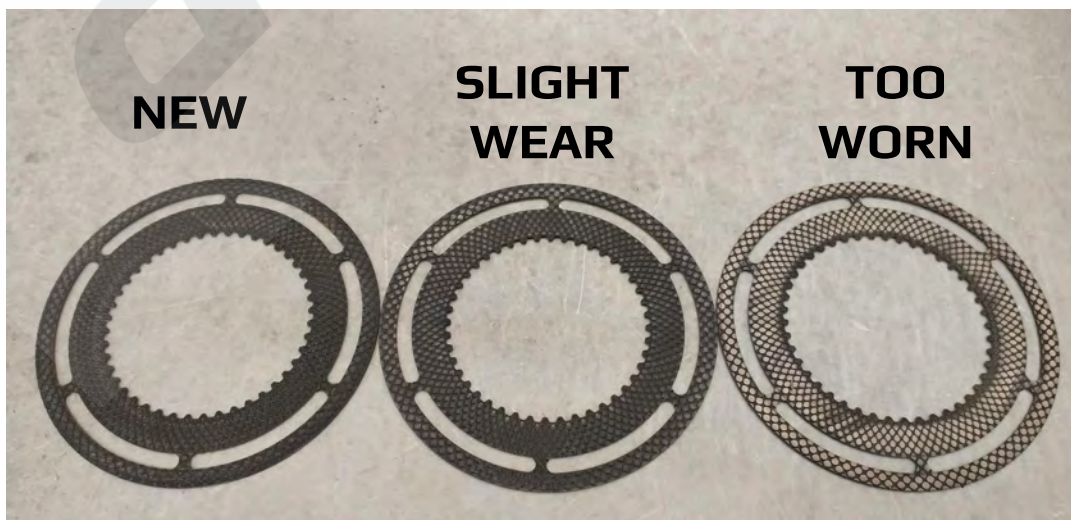
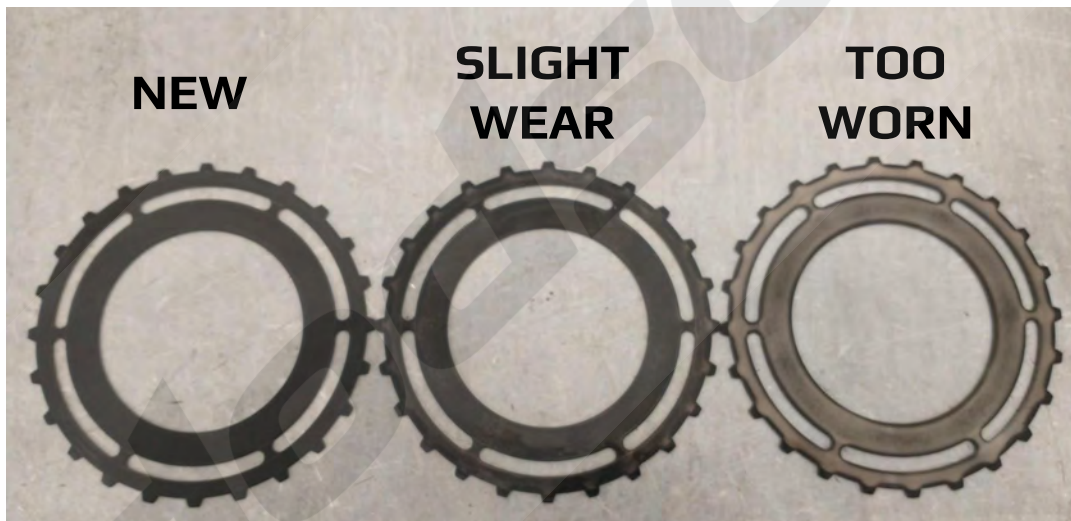
Install energiser frictions as per picture.



**IMPORTANT NOTE: These must be not worn or bent.**

The FWD energiser frictions should be dark in colour and show no excessive wear or damage. Slight wear of the coating is OK but the whole surface should not be worn silver. It may be a good idea to flip the top & bottom plates when reassembling.

See the images below comparing good to use and worn out energisers.



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## STEP 6

Add the whole bottle (200ml) of Dodson High performance FWD Clutch Fluid (DMS-2616).



## STEP 7

Install electromagnet/seal housing. Make sure that the OE seal (replacement: DMS-1936) and OE O-ring (replacement: DMS-1937) are in good condition and well lubricated.



## STEP 8

Tighten electromagnet/seal housing clockwise with the special tool. This should be done by hand and until stop. Check that the clutch pack has 0 clearance - Install on the FWD output shaft and try to turn the output shaft inside the FWD clutch unit - **it should not turn.**



## STEP 9

Mark the position of electromagnet/seal housing in relation to the outer housing when tight. Then turn the housing **anti-clockwise 90 degrees.**

TIP: mark the position using the holes in the special tool as they are 90 degrees apart.



Place the clutch on the FWD output shaft again and make sure that **you can rotate, you should be able to feel the clutch drag, which should be quite heavy but smooth - around 20-25 Nm.**

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## STEP 10

Tighten the OE lock nut (replacement: DMS-7144) with the special tool (DMS-10095).



## STEP 11

Warm bearing in the electromagnet and install onto housing - ensure not to melt the seals on the bearing. If it's still too tight, you can use the other side of the special tool (DMS-2328) to press the bearing/electromagnet fully down.



## STEP 12

Install the retaining circlip.



## STEP 13

Install the unit back into the transmission housing, ensure that the output shaft seal is in good condition and lubricated (replacement: DMS-1938), secure the loom and plug.

Fit the drive shaft flange and tighten the nut to **140 Nm**.



If you have any questions email us at [technical@dodsonmotorsport.com](mailto:technical@dodsonmotorsport.com)