

Damper Drive Plates



R & D Marine has developed a wide range of competitively priced Damper Drive Plates to fit most engine/gearbox combinations.

The R & D Damper Drive Plates reduce gear noise and allow the engine to run at lower speeds.

Linear Stiffness elements for general applications and High-Deflection elements to stop gear noise and spline wear at slow speeds.

All dampers are designed to be Fail-Safe and maintain the drive if the flexible element fails.

The flexible elements are made from a Polyester Elastomer which has good heat qualities and is not affected by salt water, diesel and lubrication oils.

Non-standard items are available for special installations, maximum back plate diameter of 533mm (21.0").

Installation is made quick and easy as the R & D Damper Drive Plate requires no machining and is ready to bolt to the flywheel.

Products are available ex-stock and worldwide through our distribution network.

- For engines up to 800 HP
- Torque range 60-1400 lb ft
- Reduces gear noise
- Allows engine to run at lower speeds
- Fail safe design
- Machined ready to install
- Elements suitable for every application
- Element has good heat qualities
- Special back plates up to 533mm (21.0") diameter
- Element is impervious to salt water, diesel and lubrication oils
- Wide range of stock
- Competitively priced
- No springs to rust or fret
- Worldwide availability

R & D Marine Damper Drive Plates

Element Selection

Consider the following criteria when making a decision on the element design.

High Deflection (H/D) Softer than our other designs with a maximum deflection up to 30 degrees, slightly larger diameter element than other designs and can only be fitted to rotate in the standard direction of rotation (anti-clockwise looking at the flywheel). With the element facing the gearbox. Suitable for work boats with slow speed applications and pleasure boats.

Hammer Head More torsionally flexible than the loop type, usually has smaller diameter element than our other designs but still retains the ability to be mounted either way round on the flywheel and rotate in either direction. Three stage stiffness with up to 9 degrees of deflection.

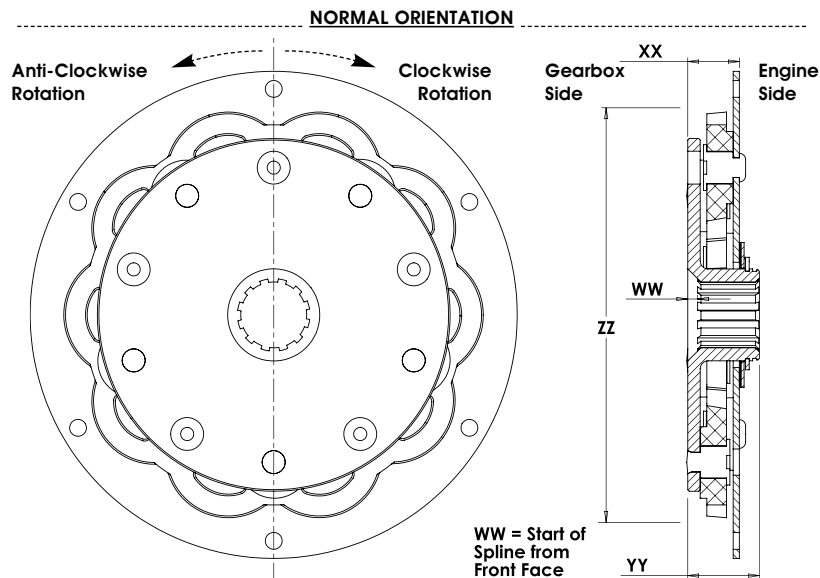
Loop type General purpose robust element which can be mounted either way round on the flywheel and can rotate in either direction. Linear stiffness up to 3 degrees of deflection.

Details required for Damper Selection

1. Manufacturer of Engine, Engine Horse Power, Engine Speed, Number of cylinders
2. Manufacturer of Gearbox, Model Number and Input Spline Details.
3. Back plate diameter, Number of holes, Size of holes, Pitch circle diameter of holes, Are they equally spaced?
Does the plate fit on the face of the flywheel or locate in a register?
4. Will the element of the Drive Plate fit on the outside of the flywheel or be reversed and fit inside a flywheel recess?
5. Type of application. Pleasure or Work Boat? Does it spend long periods at low engine speeds
• If an existing installation with a failed part •
6. Type and Part Number of Damper that has failed
7. What has failed. Spline or Element/Springs?

Gearbox Spline Details

| Gearbox | Spline | Spline Dia | |
|--|-------------------------------|------------|-------|
| | | mm | inch |
| Borg Warner | | | |
| 71, 72, 73, 5000 | 26T 20/40 DP | 35.4 | 1.394 |
| 1000, 1500 | 22T PA 30 | 18.5 | 0.729 |
| 500 | 10T B10 x 23 x 29 DIN 5464 | 29.0 | 1.142 |
| 7000 | SAE 1.500 x 10T | 38.1 | 1.50 |
| Newage PRM | | | |
| Delta | 17T 24/48 DP | 19.7 | 0.776 |
| 80, 120, 150 | 10T B10 x 23 x 29 DIN 5464 | 29.0 | 1.142 |
| 100, 101, 140, 160, 260 | SAE 1.000 x 10T | 25.4 | 1.000 |
| 175, 250, 265, 310 | SAE 1.125 x 10T | 28.6 | 1.125 |
| 301, 302, 401, 402, 500, 750 | 17T 16/32 DP | 28.84 | 1.135 |
| In-Line 301, 302, 401 402, 500, 750 | 26T 20/40 DP | 35.4 | 1.394 |
| 601, 1000 | 18T 12/24 DP | 40.5 | 1.595 |
| 1200, 1500 | 20T 12/24 DP | 44.8 | 1.761 |
| Paragon | | | |
| P Series | 26T 20/40 DP | 35.4 | 1.394 |
| Parsons | | | |
| | SAE 1.500 x 10T | 38.1 | 1.50 |
| Self Change Gear | | | |
| MRF 350HD | 32T 16/32 DP | 52.3 | 2.060 |
| MRF 350 | SAE 1.625 x 10T | 41.3 | 1.625 |
| Technodrive | | | |
| TMC 30, 40, 50, 60 | 10T B10 x 23 x 29 DIN 5464 | 29.0 | 1.142 |
| TM 93, 170, 260, 345 485, 545, 880 | 26T 20/40 DP | 35.4 | 1.394 |
| TMP | | | |
| 1200, 1500 | 26T 20/40 DP | 35.4 | 1.394 |
| Twin Disc | | | |
| 502, 501 | 26T 20/40 DP | 35.4 | 1.394 |
| Volvo | | | |
| 140 Leg Old 270-280 Leg | SAE 1.000 x 10T | 25.4 | 1.000 |
| MS3, 4, 5, HS1 Sail Drive 110 110S, New 270-280 Leg | 26T 20/40 DP | 35.4 | 1.394 |
| 120 Leg, MS 120SB, 120SC | 20T 30PA 24/48 DP | 22.6 | 0.89 |
| Yanmar | | | |
| Kanzaki, SD20 Sail Drive | 20T 30PA 24/48 DP | 22.6 | 0.89 |
| ZF - Hurth | | | |
| HBW 35, 40, 50, 100, 125, 150 | 10T B10 x 23 x 29 DIN 5464 | 29.0 | 1.142 |
| HSW 125 | | | |
| HBW 250, 360 | 26T 20/40 DP | 35.4 | 1.394 |
| HSW 450, 630, 800 | | | |
| IRM 220A | 26T 20/40 DP | 35.4 | 1.394 |



Element Details

| Torque | | Design | Code | Element Fixing | Rotation (When Facing Fly Wheel) |
|------------------------|-------|--------|------|-------------------|-------------------------------------|
| Nm | lb ft | | | | |
| HIGH DEFLECTION | | | | | |
| 135 | 100 | H/D | AM | 3 x 0.375 (4.00) | Anti-Clockwise |
| 270 | 200 | H/D | AN | 4 x 0.375 (6.00) | Anti-Clockwise |
| 405 | 300 | H/D | AL | 4 x 0.375 (6.50) | Anti-Clockwise |
| 670 | 500 | H/D | AD | 4 x 0.500 (8.00) | Anti-Clockwise |
| 940 | 700 | H/D | AE | 4 x 0.500 (10.25) | Anti-Clockwise |
| HAMMER HEAD | | | | | |
| 135 | 100 | Hammer | W | 3 x 0.375 (4.00) | Either |
| 215 | 160 | Hammer | D | 5 x 0.375 (5.59) | Either |
| 340 | 250 | Hammer | Y | 5 x 0.500 (5.59) | Either |
| 405 | 300 | Hammer | AJ | 3 x 0.500 (4.50) | Either |
| 420 | 310 | Hammer | L | 5 x 0.375 (5.59) | Either |
| 475 | 350 | Hammer | U | 5 x 0.500 (5.59) | Either |
| 745 | 550 | Hammer | R | 5 x 0.500 (5.59) | Either |
| LOOP TYPE | | | | | |
| 80 | 60 | Loop | A | 3 x 0.375 (4.00) | Either |
| 135 | 100 | Loop | B | 3 x 0.375 (4.00) | Either |
| 245 | 180 | Loop | E | 5 x 0.375 (5.59) | Either |
| 270 | 200 | Loop | F | 3 x 0.500 (4.50) | Either |
| 340 | 250 | Loop | G | 5 x 0.375 (5.59) | Either |
| 360 | 270 | Loop | H | 4 x 0.500 (4.50) | Either |
| 405 | 300 | Loop | J | 3 x 0.500 (4.50) | Either |
| 445 | 330 | Loop | K | 5 x 0.500 (5.59) | Either |
| 540 | 400 | Loop | M | 5 x 0.375 (5.59) | Either |
| 610 | 450 | Loop | N | 4 x 0.500 (4.50) | Either |
| 610 | 450 | Loop | V | 5 x 0.500 (5.59) | Either |
| 745 | 550 | Loop | P | 5 x 0.500 (5.59) | Either |
| 1015 | 750 | Loop | S | 5 x 0.500 (5.59) | Either |
| 1630 | 1200 | Loop | Z | 6 x 0.625 (10.2) | Anti-Clockwise |
| 1630 | 1200 | Loop | AF | 6 x 0.625 (10.2) | Clockwise |
| 1901 | 1400 | Loop | AH | 6 x 0.625 (10.2) | Anti-Clockwise |

Damper Selection Procedure

- Example**
- 1) Ford 150 HP at 2500 RPM 6 Cylinder
 - 2) Borg Warner Velvet Drive 72C Spline 26 teeth 20/40 DP 1.394 diameter
 - 3) Back Plate diameter 14.250, fixing holes 6 x 0.375 diameter on 13.500 pcd spaced in 3 groups of 2. No register
 - 4) Element fits on outside of flywheel
 - 5) Work Boat with a lot of slow speed work.

The R & D Damper comprises 3 main components, Spline plate, Element and Back plate, these 3 components are given a code which make up the finished part number. The following procedure will lead you through the selection process.

1. Select the correct power and style of element for the application .

Use the manufacturers maximum torque figure for the engine or calculate from the known data of maximum horsepower rating at what rpm. Using the example installation above we get 315 lb ft or 427 Nm

To calculate output Torque of engine

$$\frac{\text{Horse Power of Engine} \times 5250}{\text{Engine Speed}} = \text{Torque lbft} \quad \frac{150 \times 5250}{2500} = 315 \text{ lb ft} \quad \left| \quad \frac{\text{Horse Power of Engine} \times 7123}{\text{Engine Speed}} = \text{Torque Nm} \quad \frac{150 \times 7123}{2500} = 427 \text{ Nm}$$

From the Element selection chart we see the most suitable element has a code of AD and a fixing of 4 x 0.500 (8.00)

2. Select the correct Spline Plate to suit the Gearbox Input Shaft

Using the example, go to the Gearbox Details to find the Borg Warner 72 has a 26 Tooth 20/40 DP input spline. In the Selection Chart below look down the Element Fixing column find 4 x 0.500 (8.00) looking across find the 26T 20/40 DP input spline, in the next column is the correct code of 48 for the spline plate. The furthest column to the right gives the reference number of the Back Plates available for this Element fixing, in this case List 7

3. Select the correct Back Plate to suit the Flywheel

Using the example, go to the Back Plate List on page 4. Looking down the list find the matching bolt pattern, in this case Back Plate 2

Damper Required for this example Spline Plate Element Back Plate

| Spline | Spline Plate No | Element Code | | Element Fixing | Damper Dimensions | | | | | Back Plate Ref | | | | | |
|-------------------|-----------------|-----------------|----------------|-------------------|-------------------|------|------|--------------|--------------|----------------|-----|-------|--|------|--|
| | | Group 1 (ZZ1) | Group 2 (ZZ2) | | Black mm | | | Red inches | | | | | | | |
| | | | | | WW | XX | YY | Group 1 ZZ 1 | Group 2 ZZ 2 | | | | | | |
| 22T PA 30 | 1 | AM | | 3 x 0.375 (4.00) | 0.0 | 0.00 | 25.4 | 1.00 | 32.0 | 1.25 | 127 | 5.00 | 4, 8 37, 43 49, 60 91, 95 | | |
| 26T 20/40 DP | 2 | | | | 2.3 | 0.09 | 25.4 | 1.00 | 32.0 | 1.25 | 127 | 5.00 | | | |
| 17T 24/48 DP | 12 | | | | 0.0 | 0.00 | 25.4 | 1.00 | 32.0 | 1.25 | 127 | 5.00 | | | |
| 1.000 x 10 SAE | 13 | | | | 0.0 | 0.00 | 25.4 | 1.00 | 32.0 | 1.25 | 127 | 5.00 | | | |
| 10T DIN 5464 | 22 | | | | 0.0 | 0.00 | 25.4 | 1.00 | 32.0 | 1.25 | 127 | 5.00 | | | |
| 20T 30PA 24/48 DP | 66 | AN | | 4 x 0.375 (6.00) | 0.0 | 0.00 | 25.4 | 1.00 | 32.0 | 1.25 | 127 | 5.00 | 8, 37 49, 60 91, 94 | | |
| 26T 20/40 DP | 42 | | | | 5.0 | 0.20 | 25.4 | 1.00 | 35.0 | 1.38 | 182 | 7.13 | | | |
| 10T DIN 5464 | 43 | | | | 0.0 | 0.00 | 25.4 | 1.00 | 35.0 | 1.38 | 182 | 7.13 | | | |
| 17T 24/48 DP | 44 | | | | 0.0 | 0.00 | 25.4 | 1.00 | 35.0 | 1.38 | 182 | 7.13 | | | |
| 17T 16/32 DP | 46 | | | | 1.8 | 0.07 | 25.4 | 1.00 | 35.0 | 1.38 | 182 | 7.13 | | | |
| 1.000 x 10 SAE | 45 | AL | | 4 x 0.375 (6.50) | 2.3 | 0.09 | 25.4 | 1.00 | 35.0 | 1.38 | 182 | 7.13 | 145, 146 147, 148 149 | | |
| 20T 30PA 24/48 DP | 65 | | | | 0.0 | 0.00 | 25.4 | 1.00 | 35.0 | 1.38 | 182 | 7.13 | | | |
| 26T 20/40 DP | 71 | | | | 12.5 | 0.49 | 26.4 | 1.04 | 34.0 | 1.34 | 194 | 7.64 | | | |
| 26T 20/40 DP | 76 | | | | 5.0 | 0.20 | 26.4 | 1.04 | 34.0 | 1.34 | 194 | 7.64 | | | |
| 10T DIN 5464 | 72 | | | | 0.0 | 0.00 | 26.4 | 1.04 | 34.0 | 1.34 | 194 | 7.64 | | | |
| 17T 16/32 DP | 73 | D, L, | E, G, M | 5 x 0.375 (5.593) | 2.6 | 0.10 | 26.4 | 1.04 | 34.0 | 1.34 | 194 | 7.64 | 1, 2 3, 5 17, 25 35, 36 40 | | |
| 1.000 x 10 SAE | 74 | | | | 1.0 | 0.04 | 26.4 | 1.04 | 34.0 | 1.34 | 194 | 7.64 | | | |
| 20T 30PA 24/48 DP | 75 | | | | 5.0 | 0.20 | 25.4 | 1.00 | 35.0 | 1.38 | 175 | 6.90 | | 207 | 8.13 |
| 26T 20/40 DP | 3 | | | | 5.0 | 0.20 | 25.4 | 1.00 | 35.0 | 1.38 | 175 | 6.90 | | 207 | 8.13 |
| 26T 20/40 DP | 5 | | | | 2.3 | 0.09 | 25.4 | 1.00 | 35.0 | 1.38 | 175 | 6.90 | | 207 | 8.13 |
| 1.000 x 10 SAE | 14 | Y, U, R, | K, V, P | 5 x 0.500 (5.593) | 2.3 | 0.09 | 25.4 | 1.00 | 35.0 | 1.38 | 175 | 6.90 | 207 | 8.13 | |
| 1.125 x 10 SAE | 16 | | | | 1.8 | 0.07 | 25.4 | 1.00 | 35.0 | 1.38 | 175 | 6.90 | 207 | 8.13 | |
| 17T 16/32 DP | 18 | | | | 0.0 | 0.00 | 25.4 | 1.00 | 35.0 | 1.38 | 175 | 6.90 | 207 | 8.13 | |
| 10T DIN 5464 | 23 | | | | 0.0 | 0.00 | 25.4 | 1.00 | 35.0 | 1.38 | 175 | 6.90 | 207 | 8.13 | |
| 17T 24/48 DP | 32 | | | | 0.0 | 0.00 | 25.4 | 1.00 | 35.0 | 1.38 | 175 | 6.90 | 207 | 8.13 | |
| 26T 20/40 DP | 4 | S | | 5 x 0.500 (5.593) | 5.0 | 0.20 | 28.7 | 1.13 | 35.0 | 1.38 | 182 | 7.13 | 207 | 8.13 | 1, 2 3, 5 17, 25 35, 36 40 |
| 26T 20/40 DP Long | 9 | | | | 0.0 | 0.00 | 28.7 | 1.13 | 43.0 | 1.69 | 182 | 7.13 | 207 | 8.13 | |
| 18T 12/24 DP | 21 | | | | 0.0 | 0.00 | 28.7 | 1.13 | 38.1 | 1.50 | 182 | 7.13 | 207 | 8.13 | |
| 17T 16/32 DP | 31 | | | | 1.8 | 0.07 | 28.7 | 1.13 | 35.0 | 1.38 | 182 | 7.13 | 207 | 8.13 | |
| 32T 16/32 DP | 26 | | | | 0.0 | 0.00 | 38.5 | 1.52 | 57.2 | 2.25 | | | 207 | 8.13 | |
| 1.625 x 10 | 27 | H, N | | 4 x 0.500 (4.50) | 0.0 | 0.00 | 28.7 | 1.13 | 38.1 | 1.50 | | | 207 | 8.13 | |
| 1.500 x 10 | 11 | | | | 0.0 | 0.00 | 28.7 | 1.13 | 38.1 | 1.50 | 182 | 7.13 | 207 | 8.13 | |
| PR 1500 | 54 | | | | 0.0 | 0.00 | 63.2 | 2.49 | 79.3 | 3.12 | | | 207 | 8.13 | |
| 26T 20/40 DP | 4 | | | | 5.0 | 0.20 | 31.8 | 1.25 | 35.0 | 1.38 | 207 | 8.13 | | | 14, 15 52 |
| 26T 20/40 DP Long | 9 | | | | 0.0 | 0.00 | 31.8 | 1.25 | 43.0 | 1.69 | 207 | 8.13 | | | |
| 18T 12/24 DP | 21 | 0.0 | 0.00 | 31.8 | 1.25 | 38.1 | 1.50 | 207 | 8.13 | | | | | | |
| 32T 16/32 DP | 26 | 0.0 | 0.00 | 41.7 | 1.64 | 57.2 | 2.25 | 207 | 8.13 | | | | | | |
| 1.625 x 10 | 27 | 0.0 | 0.00 | 31.8 | 1.25 | 38.1 | 1.50 | 207 | 8.13 | | | | | | |
| 1.500 x 10 | 11 | AJ | | 3 x 0.500 (4.50) | 0.0 | 0.00 | 31.8 | 1.25 | 38.1 | 1.50 | 207 | 8.13 | 6, 13 | | |
| PR 1500 | 54 | | | | 0.0 | 0.00 | 66.3 | 2.61 | 79.3 | 3.12 | 207 | 8.13 | | | |
| 26T 20/40 DP | 6 | | | | 5.0 | 0.20 | 29.5 | 1.16 | 36.0 | 1.41 | 183 | 7.19 | | | |
| 26T 20/40 DP HT | 8 | | | | 5.0 | 0.20 | 29.5 | 1.16 | 36.0 | 1.41 | 183 | 7.19 | | | |
| 1.500 x 10 | 10 | | | | 0.0 | 0.00 | 29.5 | 1.16 | 36.0 | 1.41 | 183 | 7.19 | | | |
| 1.500 x 10 SAE | 17 | F, J, | | 4 x 0.500 (8.00) | 2.3 | 0.09 | 29.5 | 1.16 | 36.0 | 1.41 | 183 | 7.19 | 7 | | |
| 17T 16/32 DP | 19 | | | | 0.0 | 0.00 | 29.5 | 1.16 | 36.0 | 1.41 | 183 | 7.19 | | | |
| 1.625 x 10 | 28 | | | | 0.0 | 0.00 | 29.5 | 1.16 | 38.1 | 1.50 | 183 | 7.19 | | | |
| 26T 20/40 DP | 7 | | | | 8.1 | 0.32 | 29.5 | 1.16 | 36.0 | 1.41 | 158 | 6.19 | | | |
| 1.000 x 10 SAE | 15 | | | | 2.3 | 0.09 | 29.5 | 1.16 | 36.0 | 1.41 | 158 | 6.19 | | | |
| 17T 16/32 DP | 20 | AD | | 6 x 0.625 (8.00) | 1.8 | 0.07 | 29.5 | 1.16 | 36.0 | 1.41 | 158 | 6.19 | 1, 2, 3 5, 17 25, 34 | | |
| 17T 24/48 DP | 41 | | | | 0.0 | 0.00 | 44.2 | 1.74 | 57.2 | 2.25 | 330 | 13.00 | | | |
| 26T 20/40 DP | 48 | | | | 6.0 | 0.24 | 29.0 | 1.14 | 36.0 | 1.41 | 235 | 9.25 | | | |
| 17T 16/32 DP | 49 | | | | 1.8 | 0.07 | 29.0 | 1.14 | 36.0 | 1.41 | 235 | 9.25 | | | |
| 26T 20/40 DP | 57 | | | | 0.0 | 0.00 | 29.0 | 1.14 | 36.0 | 1.41 | 235 | 9.25 | | | |
| 32T 16/32 DP | 40 | Z, AF | | 6 x 0.625 (8.00) | 0.0 | 0.00 | 44.2 | 1.74 | 57.2 | 2.25 | 330 | 13.00 | 78, 79 | | |
| PR 1500 | 55 | | | | 0.0 | 0.00 | 68.6 | 2.70 | 79.3 | 3.12 | 330 | 13.00 | | | |
| 26T 20/40 DP | 56 | | | | 0.0 | 0.00 | 44.2 | 1.74 | 51.6 | 2.03 | 330 | 13.00 | | | |
| 32T 16/32 DP | 40 | | | | 0.0 | 0.00 | 47.3 | 1.86 | 57.2 | 2.25 | 330 | 13.00 | | | |
| PR 1500 | 55 | | | | 0.0 | 0.00 | 71.9 | 2.83 | 79.3 | 3.12 | 330 | 13.00 | | | |
| 26T 20/40 DP | 56 | AH | | 6 x 0.625 (8.00) | 0.0 | 0.00 | 47.3 | 1.86 | 51.6 | 2.03 | 330 | 13.00 | 78, 79 | | |
| 26T 20/40 DP | 50 | | | | 0.0 | 0.00 | 47.3 | 1.86 | 51.6 | 2.03 | 330 | 13.00 | | | |
| 26T 20/40 DP | 50 | | | | 0.0 | 0.00 | 31.8 | 1.25 | 39.0 | 1.53 | 302 | 11.88 | | | |
| 18T 12/24 DP | 51 | | | | 0.0 | 0.00 | 31.8 | 1.25 | 39.0 | 1.53 | 302 | 11.88 | | | |
| 17T 16/32 DP | 52 | | | | 0.0 | 0.00 | 31.8 | 1.25 | 39.0 | 1.53 | 302 | 11.88 | | | |

Back Plate Details

| Ref | O/D Met | O/D Imp | Flywheel Fixing Metric | Flywheel Fixing Imperial | Remarks |
|-----|---------|---------|---|--|----------|
| 1 | 298.5 | 11.75 | 6 x 8.1 on 200 6 x 8.1 on 250 6 x 8.1 on 269.9 6 x 8.1 on 273 | 6 x .32 on 7.875 6 x .32 on 9.843 6 x .32 on 10.625 6 x .32 on 10.75 | |
| 2 | 362 | 14.25 | 6 x 8.1 on 200 6 x 8.1 on 210 6 x 8.1 on 263 6 x 8.1 on 269.9 6 x 8.1 on 276.3 6 x 8.1 on 289 6 x 8.1 on 295.3 6 x 8.8 on 304.8 6 x 8.1 on 314.4 6 x 9.5 on 320.7 12 x 9.5 on 343 Ford | 6 x .32 on 7.875 6 x .32 on 8.268 6 x .32 on 10.375 6 x .32 on 10.625 6 x .32 on 10.875 6 x .32 on 11.375 6 x .32 on 11.625 6 x .344 on 12.00 6 x .32 on 12.375 6 x .375 on 12.625 12 x .375 on 13.5 Ford | |
| 3 | 336.5 | 13.24 | 6 x 8.1 on 200 6 x 8.1 on 210 6 x 8.1 on 263 6 x 8.1 on 269.9 6 x 8.1 on 276.3 6 x 8.1 on 289 6 x 8.1 on 295.3 6 x 8.8 on 304.8 6 x 8.1 on 314.4 6 x 9.5 on 320.7 | 6 x .32 on 7.875 6 x .32 on 8.268 6 x .32 on 10.375 6 x .32 on 10.625 6 x .32 on 10.875 6 x .32 on 11.375 6 x .32 on 11.625 6 x .344 on 12.00 6 x .32 on 12.375 6 x .375 on 12.625 | |
| 4 | 155.45 | 6.12 | 5 x 6.35 on 142 | 5 x .25 on 5.593 | |
| 5 | 352.5 | 13.875 | 8 x 10.6 on 333.4 | 8 x .416 on 13.125 | SAE 11.5 |
| 6 | 202.6 | 7.978 | 8 x 8.1 on 181 | 8 x .32 on 7.125 | |
| 7 | 180.8 | 7.12 | 9 x 6.35 on 167.4 | 9 x .25 on 6.589 | |
| 8 | 298.5 | 11.75 | 6 x 8.1 on 200 6 x 8.1 on 250 6 x 8.1 on 269.9 6 x 8.1 on 273 | 6 x .32 on 7.875 6 x .32 on 9.843 6 x .32 on 10.625 6 x .32 on 10.75 | |
| 13 | 234 | 9.212 | 6 x 13.1 on 210 | 6 x .515 on 8.267 | |
| 14 | 352.5 | 13.875 | 8 x 10.6 on 333.4 | 8 x .416 on 13.125 | SAE 11.5 |
| 15 | 362 | 14.25 | 12 x 9.5 on 342.9 | 12 x .375 on 13.50 | Ford |
| 17 | 314.3 | 12.375 | 6 x 8.1 on 200 6 x 8.1 on 250 6 x 8.1 on 269.9 6 x 8.1 on 273 8 x 10.6 on 296 | 6 x .32 on 7.875 6 x .32 on 9.843 6 x .32 on 10.625 6 x .32 on 10.750 8 x .416 on 11.625 | SAE 10 |

| Ref | O/D Met | O/D Imp | Flywheel Fixing Metric | Flywheel Fixing Imperial | Remarks |
|-----|-------------------------|---|--|--|------------------------------|
| 25 | 287.4 | 11.312 | 6 x 9.1 on 269.96 6 x 6.3 on 269.96 | 6 x .356 on 10.625 3 x .25 on 10.625 | TAMD 40 |
| 34 | 466.7 | 18.375 | 8 x 13.5 on 438.15 | 8 x .53 on 17.250 | SAE 14 |
| 35 | 263.5 | 10.375 | 6 x 9.5 on 244.5 | 6 x .375 on 9.625 | SAE 8 |
| 36 | 266.7 | 10.5 | 12 x 8.1 on 222.3 6 x 8.1 on 244.5 Spaced 3 groups of 2 apart 23°59'07 12 x 8.1 on 246 12 x 8.1 on 242 | 12 x .32 on 8.750 6 x .32 on 9.625 Spaced 3 groups of 2 apart 23°59'07 12 x .32 on 9.685 12 x .32 on 9.527 | Suit Ford XLD And Mitsubishi |
| 37 | 266.7 | 10.5 | 12 x 8.1 on 222.3 6 x 8.1 on 244.5 Spaced 3 groups of 2 apart 23°59'07 12 x 8.1 on 246 12 x 8.1 on 242 | 12 x .32 on 8.750 6 x .32 on 9.625 Spaced 3 groups of 2 apart 23°59'07 12 x .32 on 9.685 12 x .32 on 9.527 | Suit Ford XLD And Mitsubishi |
| 40 | 241.3 | 9.500 | 8 x 8.5 on 222.25 | 8 x .334 on 8.750 | SAE 7.5 |
| 43 | 263.5 | 10.375 | 6 x 9.5 on 244.5 | 6 x .375 on 9.625 | SAE 7.5 |
| 49 | 241.3 | 9.500 | 8 x 8.5 on 222.25 | 8 x .334 on 8.750 | Beta |
| 60 | 215.9 | 8.500 | 6 x 8.1 on 200 | 6 x .32 on 7.875 | SAE 6.5 |
| 78 | 352.5 | 13.875 | 8 x 10.6 on 333.4 | 8 x .416 on 13.125 | SAE 11.5 |
| 79 | 466.7 | 18.375 | 8 x 13.5 on 438.15 | 8 x .53 on 17.250 | SAE 14 |
| 91 | 314.3 -0.05 -0.13 | 12.375 -0.002 -0.005 SAE 10 | 6 x 8.1 on 200 6 x 8.1 on 250 6 x 8.1 on 269.9 6 x 8.1 on 273 8 x 10.6 on 296 | 6 x .32 on 7.875 6 x .32 on 9.843 6 x .32 on 10.625 6 x .32 on 10.750 8 x .416 on 11.625 | SAE 10 |
| 94 | 287.4 | 11.312 | 6 x 9.1 on 269.96 6 x 6.3 on 269.96 | 6 x .356 on 10.625 3 x .25 on 10.625 | Trans Auto TAMD 40 |
| 95 | 235 | 9.250 | 6 x 8.1 on 222.25 | 6 x .32 on 8.750 | BETA |
| 101 | 352.5 | 13.875 | 8 x 10.6 on 333.4 | 8 x .416 on 13.125 | SAE 11.5 |
| 103 | 466.7 | 18.375 | 8 x 13.5 on 438.15 | 8 x .53 on 17.250 | SAE 14 |
| 145 | 215.9 | 8.500 | 6 x 8.1 on 200 | 6 x .32 on 7.875 | SAE 6.5 |
| 146 | 241.3 | 9.500 | 8 x 8.5 on 222.25 | 8 x .334 on 8.750 | SAE 7.5 |
| 147 | 263.5 | 10.375 | 6 x 9.5 on 244.5 | 6 x .375 on 9.625 | SAE 8 |
| 148 | 314.3 | 12.375 | 8 x 10.6 on 296 | 8 x .416 on 11.625 | SAE 10 |
| 149 | 352.5 | 13.875 | 8 x 10.6 on 333.4 | 8 x .416 on 13.125 | SAE 11.5 |

The above table shows some of the 160 standard back-plates we produce.

We can manufacture one off specials up to 533mm [21.0"] Ø. Please contact R & D Marine for your requirement. Details below



Designs are subject to constant review and improvement therefore we reserve the right to amend any dimension or detail specified or illustrated in this publication without notice and without incurring any obligation to provide such modification to products previously delivered.

R & D MARINE LTD.

Meadow Works
Clothall Road
Baldock
Hertfordshire
England
SG7 6PD

Contact Us By:
Tel: +44 (0)1462 892391
Fax: +44 (0)1462 896448
Web Site: www.randdmarine.com
E mail: info@randdmarine.com