

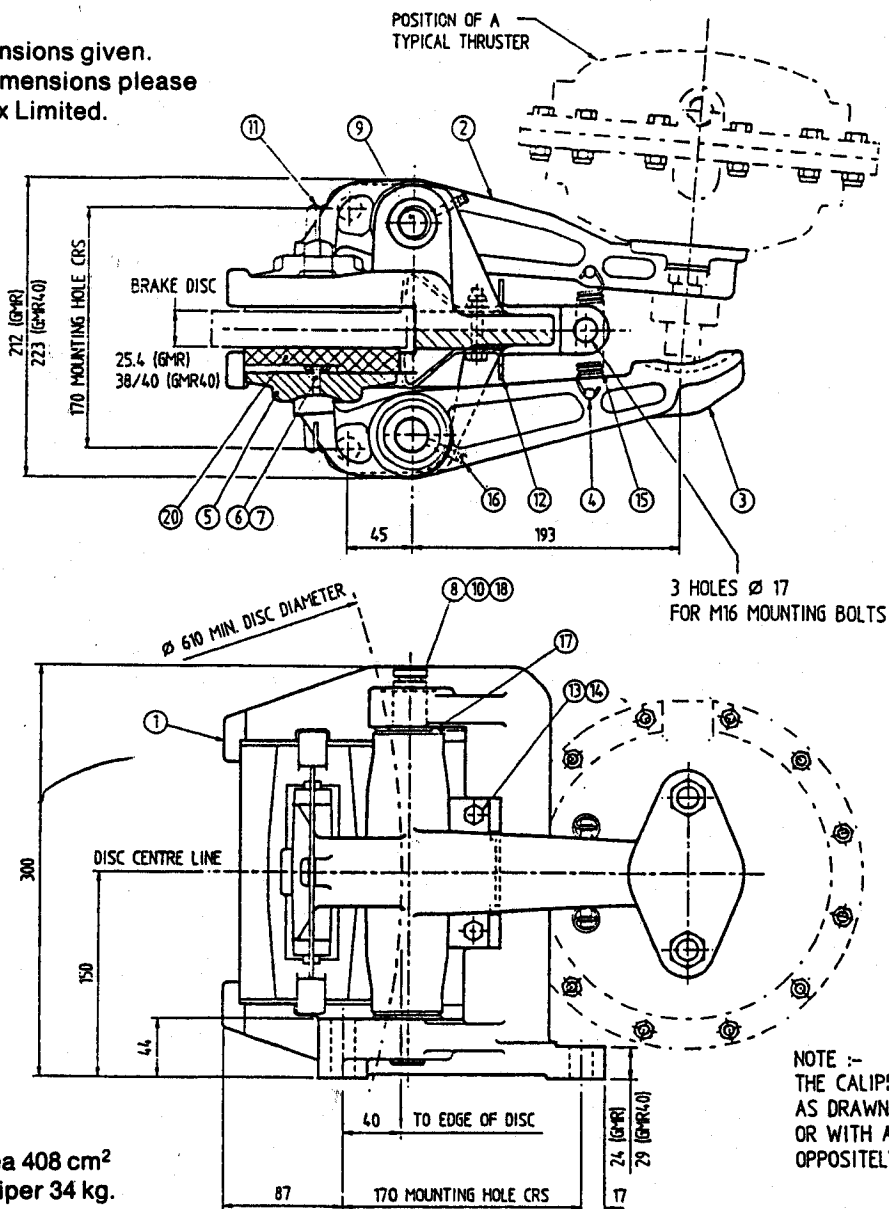
GMR Mk 2 and GMR40 Mk 2 DISC BRAKE CALIPER

DB 3604

Issue 1

Date: Aug 1991

Nominal dimensions given.
For specific dimensions please
contact Twiflex Limited.



Total Pad Area 408 cm²
Weight of Caliper 34 kg.

GMR CALIPER ASSEMBLY PART No 6780971 - GMR40 CALIPER ASSEMBLY PART No 6781006

ITEM	DESCRIPTION	PART No	QTY
1	PIVOT BASE (GMR)	-	1
1	PIVOT BASE (GMR40)	-	1
2	ARM (THRUSTER SIDE)	-	1
3	ARM (OPPOSITE SIDE)	-	1
4	MILLS PIN	-	4
5	PRESSURE PLATE	-	2
6	RETAINING DISC	-	2
7	M5 x 16 CSK. SCREW	-	2
8	PIVOT PIN	-	2
9	SPRING RING	-	2
10	CIRCLIP	4300203	2

ITEM	DESCRIPTION	PART No	QTY
11	SPRING CLIP	-	2
12	KEEP PLATE	-	2
13	M8 x 45 BOLT (GMR)	-	2
13	M8 x 55 BOLT (GMR40)	-	2
14	M8 NUT	-	2
15	TENSION SPRING	-	2
16	GREASE NIPPLE	-	4
17	'O' RING	6000204	4
18	'O' RING	6000448	4
19	-	-	-
20	PAD ASSEMBLY	7080080	2



Twiflex Limited

THE GREEN, TWICKENHAM, ENGLAND TW2 5AQ
Tel: 081-894 1161 Fax: 081-894 6056 Telex: 261704 TWIFLX G

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General Description

The basic GMR caliper accepts a number of interchangeable thrusters: pneumatic, hydraulic and mechanical. Shown in the drawing is a caliper operated by a pneumatic thruster—type P. Marine version calipers are available.

The following complete brake calipers are available, plus the equivalent GMR40 types (Data Sheet Nos. in brackets):—

Pneumatic	GMR—P	Air applied, spring released	—(DB 3606)
Hydraulic	GMR—H	Hydraulic applied, spring released	—(DB 3605)
Mechanical	GMR—SH	Spring applied, hydraulically released	—(DB 4605)
	GMR—S	Spring applied, air released	—(DB 4603)
	GMR—SD	Spring applied, air released (low pressure)	—(DB 4604)

Note: Full-installation, operation and maintenance instructions are given in the data sheets.

The GMR brake caliper is used with discs 25mm thick, whilst the GMR40 caliper is used for disc thickness of 38—40mm. The minimum disc diameter is 610mm; there is no upper limit on disc size. Calipers are normally used in pairs, but the number of calipers per disc can be increased, depending on disc size and torque required.

Ideally GMR brake calipers should be mounted on a horizontal base. If the caliper must be mounted on an inclined surface, it should be fitted with adjustable stop screws and bias springs; these are included in the inclined mounting kits. Unless otherwise specified, calipers are supplied assembled 'right-handed', as in the drawings.

Discs: A range of standard discs in both thicknesses are available from Twiflex (Data Sheet DB 5002).

Twiflex discs are manufactured from spheroidal graphite cast iron, which is the preferred material. Grey iron can be used, but the maximum speed is reduced by one-third. Forged or wrought iron (not cast) steel having a hardness of 200 HB minimum may also be used. In normal use disc surface will become polished, and may wear slightly unevenly to produce shallow circumferential grooves. This is not detrimental. However, if disc becomes severely scored, pitted or warped, it may be resurfaced by fine turning or grinding. The disc rubbing path should have a surface of 2µm CLA or better, and be flat and parallel within .05mm. It is essential that the mounting bolt holes have clearance to allow for differential expansion between disc and hub.

Controllers: Standard Twiflex Controllers are available for single or multi-caliper installations for use with electric, pneumatic and hydraulic signalling systems.

Friction Pads: Twiflex Disc Brakes must be used with Twiflex Asbestos Free Brake Pads. The use of any other brake pad will invalidate the warranty.

Replacement of friction pads (20) is carried out from the rear of the caliper, after removal of the caliper return springs (15) and keep plates (12).

Maintenance: The surface of the caliper arm on which the thruster push rod bears should be kept well greased. The knuckle joints between the caliper arms and the pressure plates should be kept clean, and a small amount of grease applied; the joints may be levered apart slightly against the pressure of the spring clips. Occasionally, or if caliper is not operating freely, inject a small amount of grease via grease nipples (16) to lubricate the pivot pins, then rotate pins to distribute the grease. Any grease exuding past the 'O'-rings (18) should be wiped off. The pins may be turned by gripping the knurled end at the top of the caliper.

After extended (one million operations or three years) use, the pivot pins should be withdrawn, cleaned, replaced and regreased, or replaced if badly worn.

The use of a grease containing molybdenum disulphide is recommended.

In order not to damage the O-ring seals (18) on the pins, use the following procedure. Remove the top circlip, push pin down until the lower circlip and 'O'-ring can be removed, then withdraw the pin upwards. To refit, reverse this procedure.

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THE GREEN, TWICKENHAM, ENGLAND TW2 5AQ
Tel: 081-894 1161 Fax: 081-894 6056 Telex: 261704 TWIFLX G