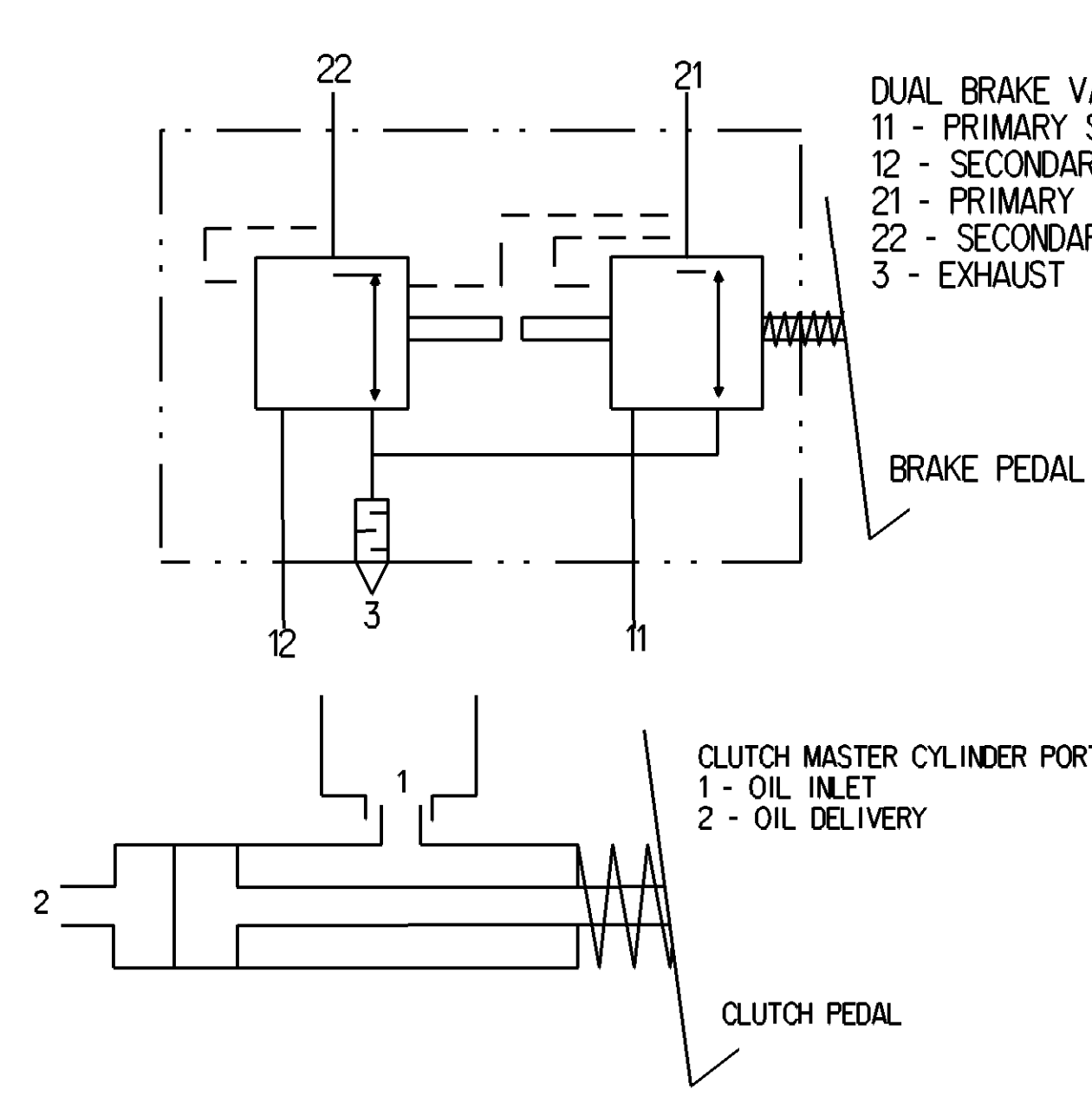
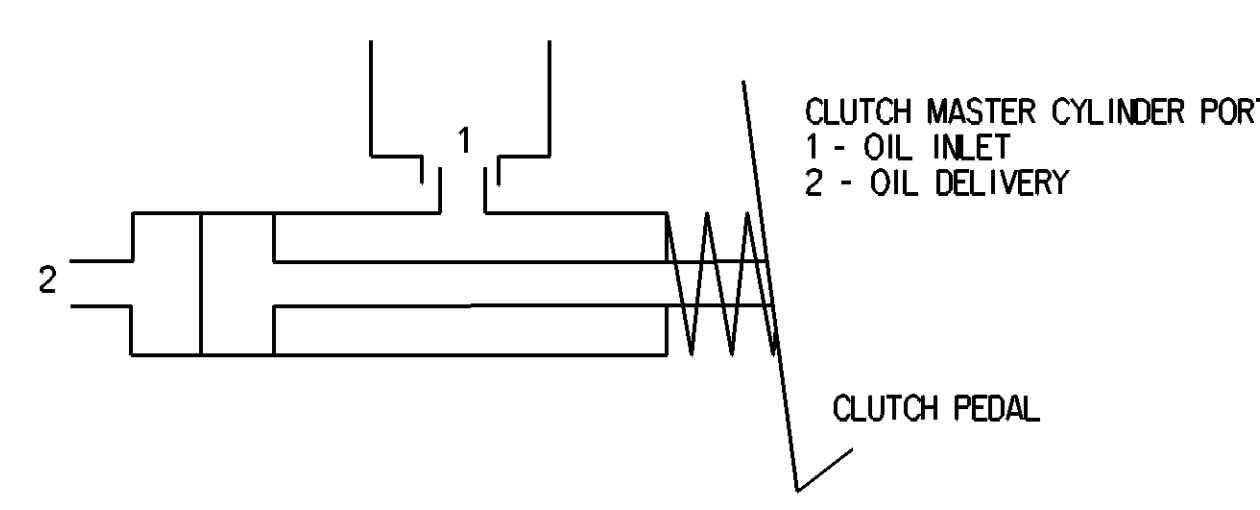
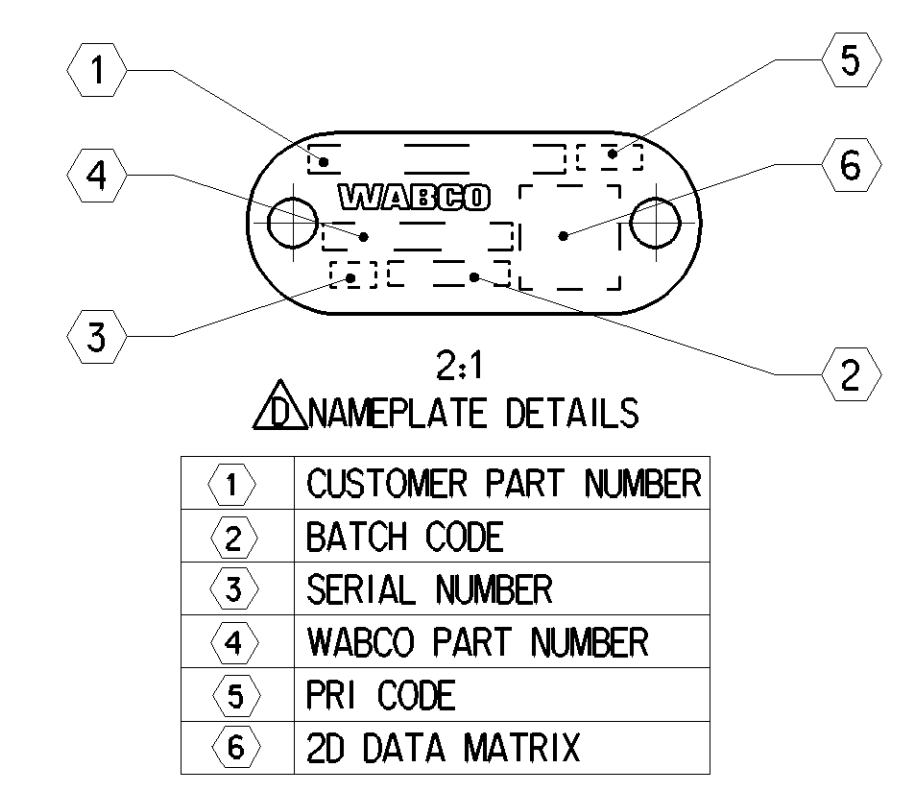




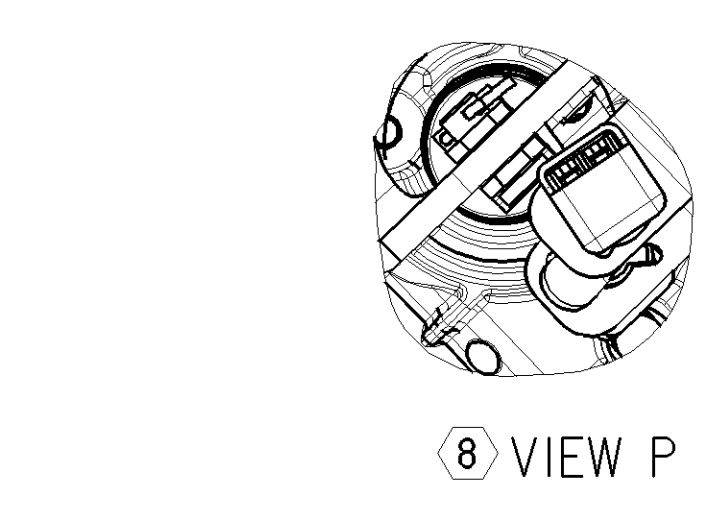
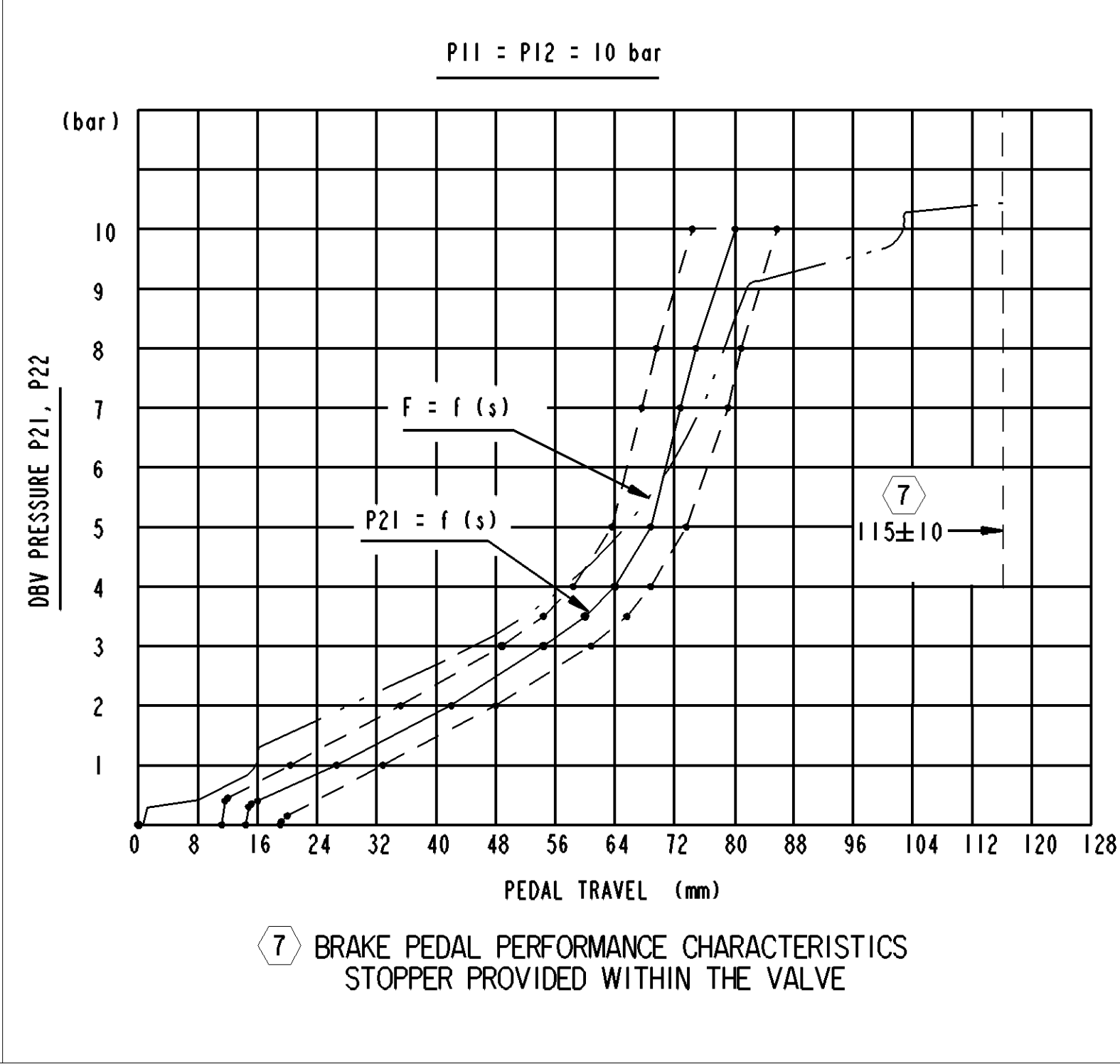
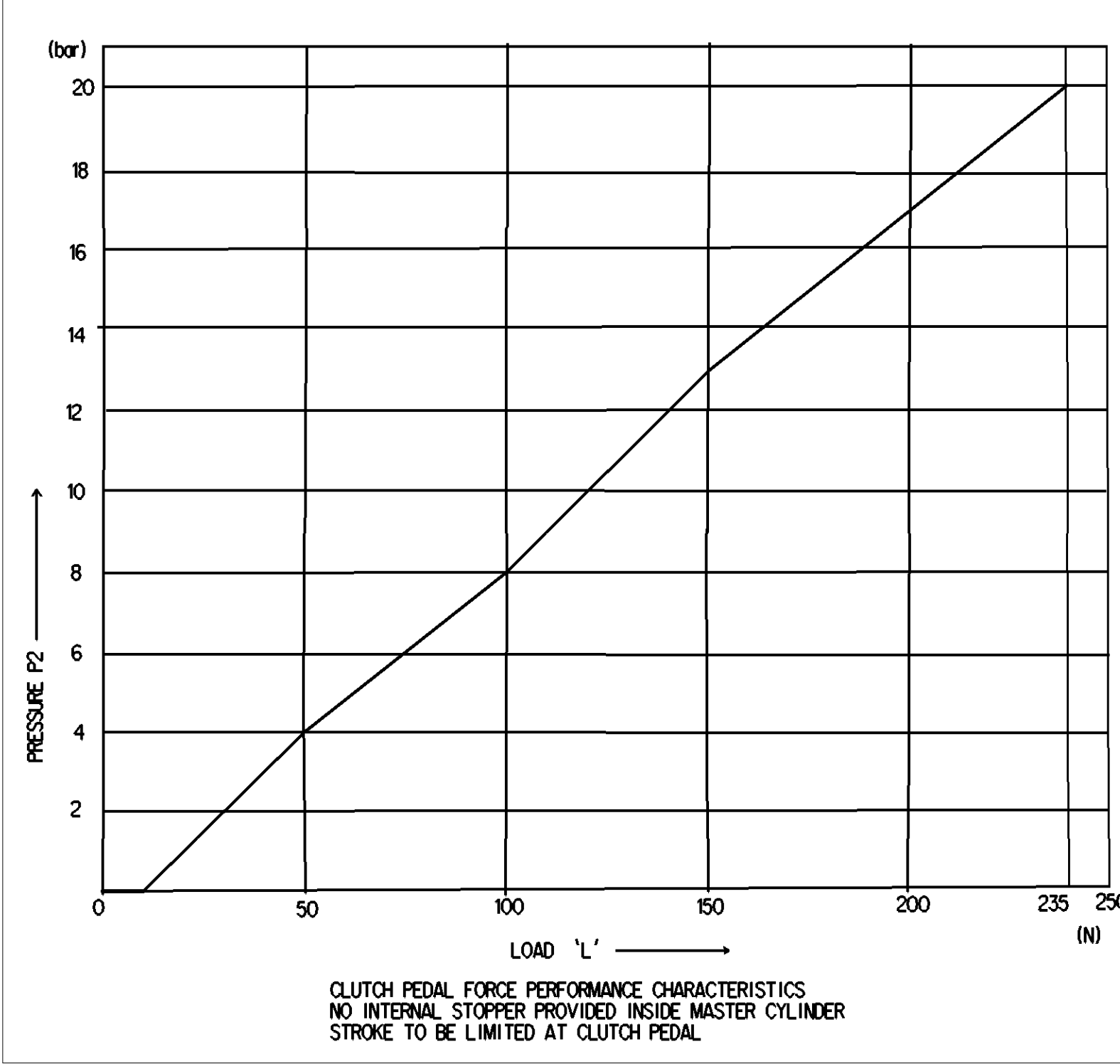
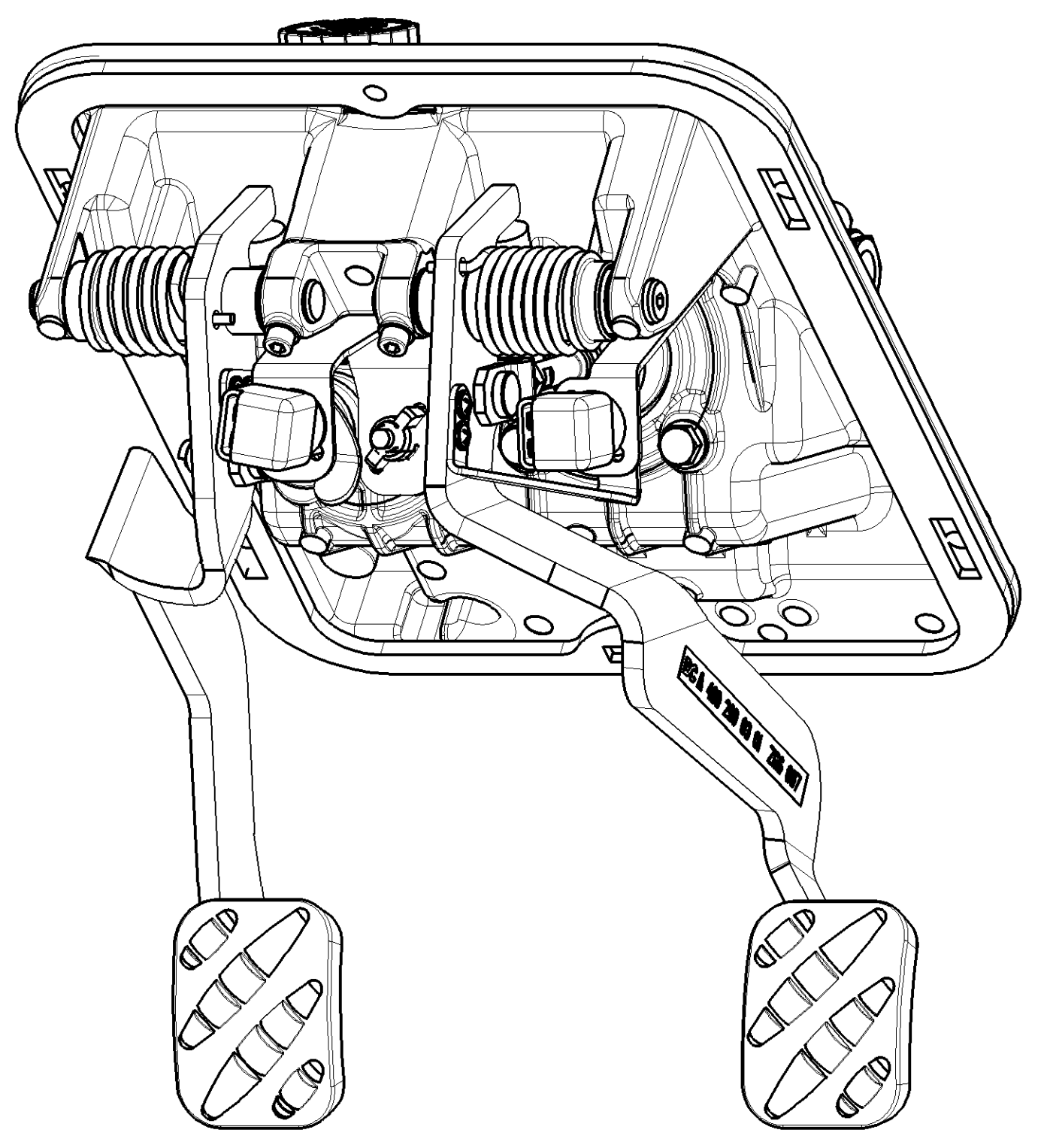
DUAL BRAKE VALVE PORT ORIENTATION:
11 - PRIMARY SUPPLY PORT
12 - SECONDARY SUPPLY PORT
21 - PRIMARY DELIVERY PORT
22 - SECONDARY DELIVERY PORT
3 - EXHAUST



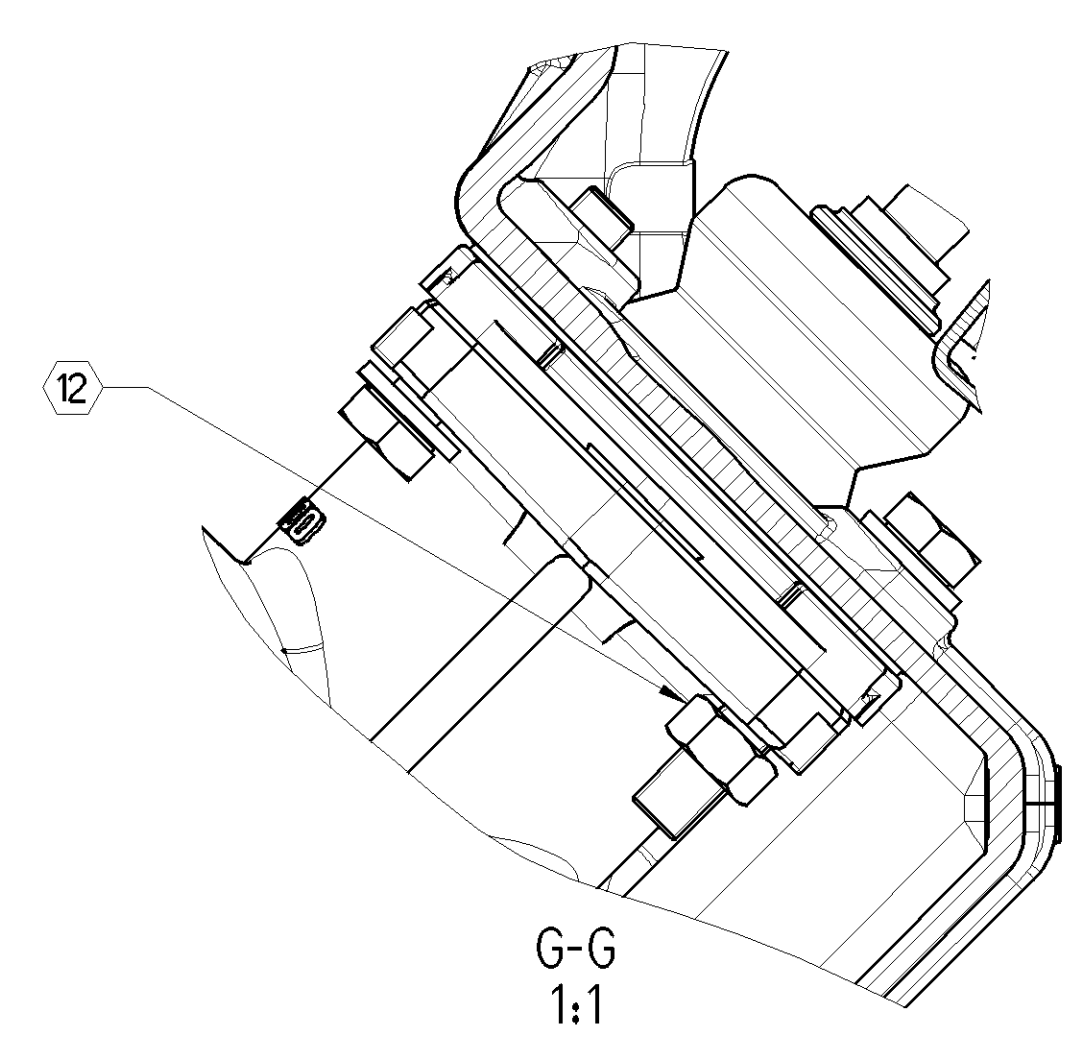
CLUTCH MASTER CYLINDER PORT DESCRIPTION:
1 - OIL INLET
2 - OIL DELIVERY



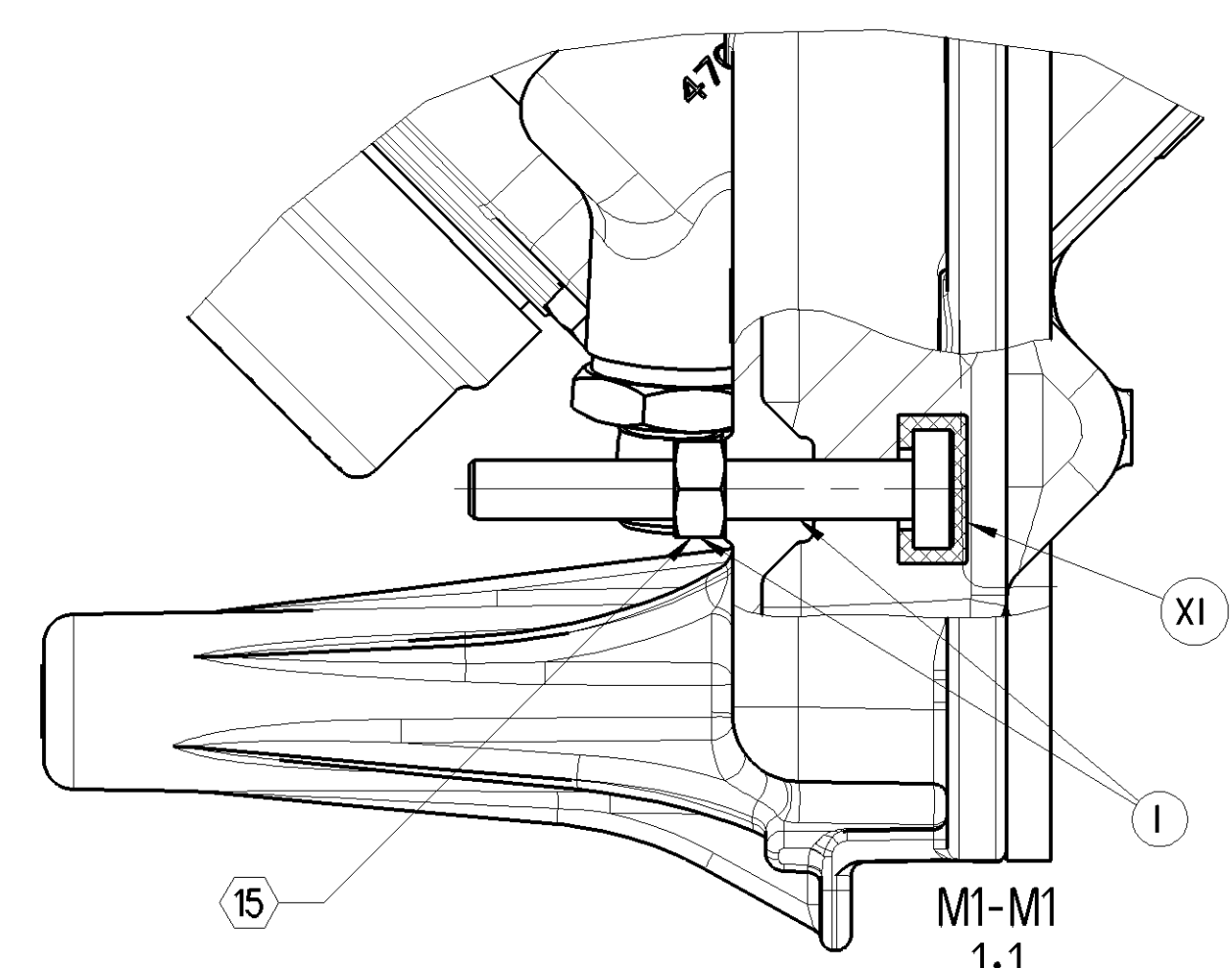
- NAMEPLATE DETAILS
- | | |
|---|----------------------|
| 1 | CUSTOMER PART NUMBER |
| 2 | BATCH CODE |
| 3 | SERIAL NUMBER |
| 4 | WABCO PART NUMBER |
| 5 | PRI CODE |
| 6 | 2D DATA MATRIX |



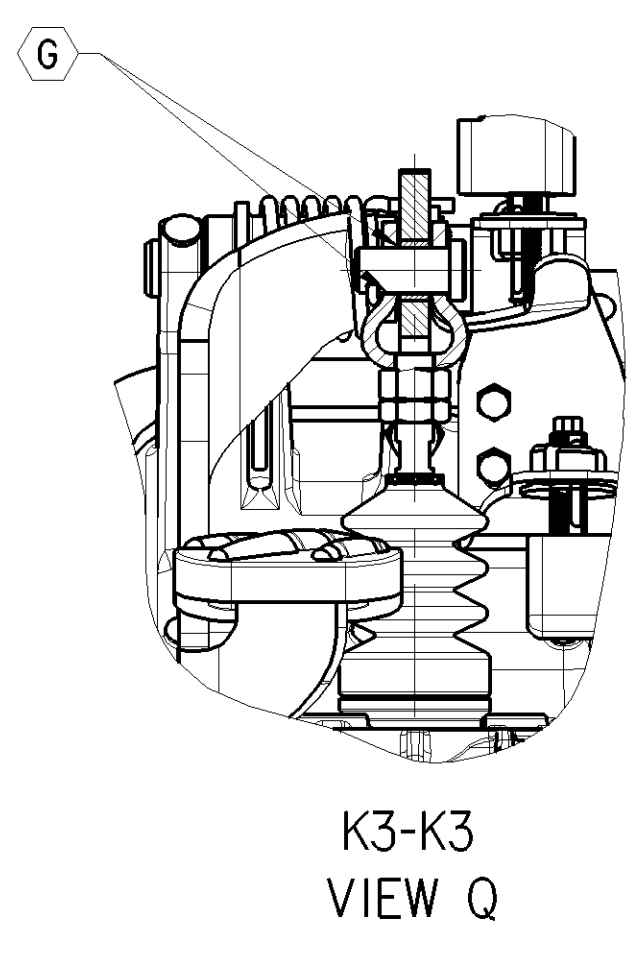
8 VIEW P



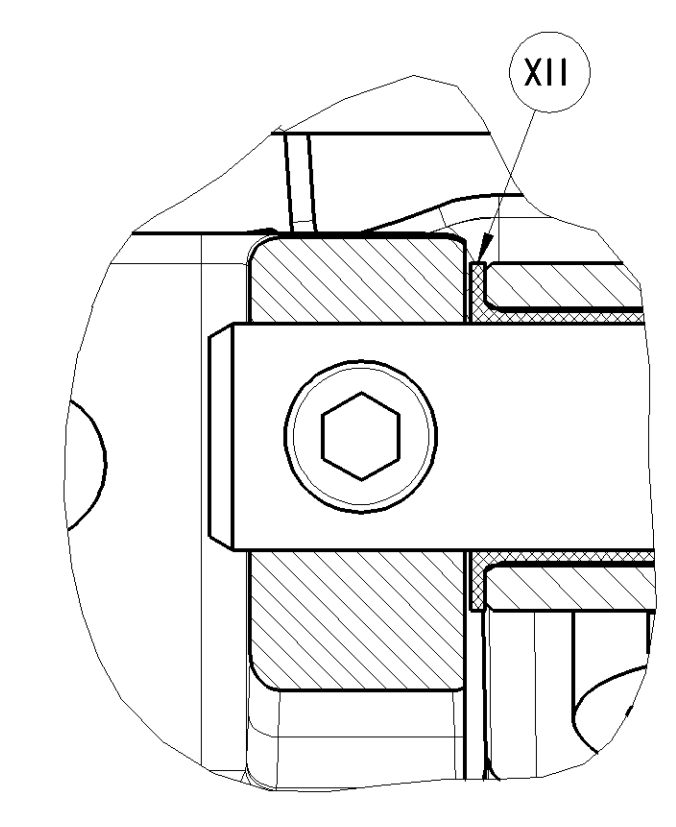
G-G
1:1



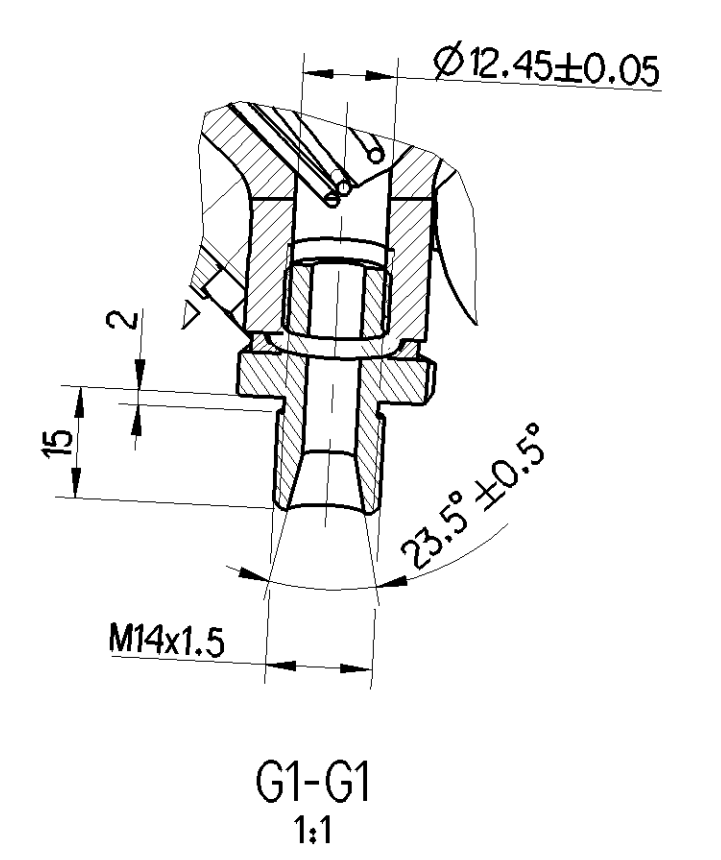
M1-M1
1:1



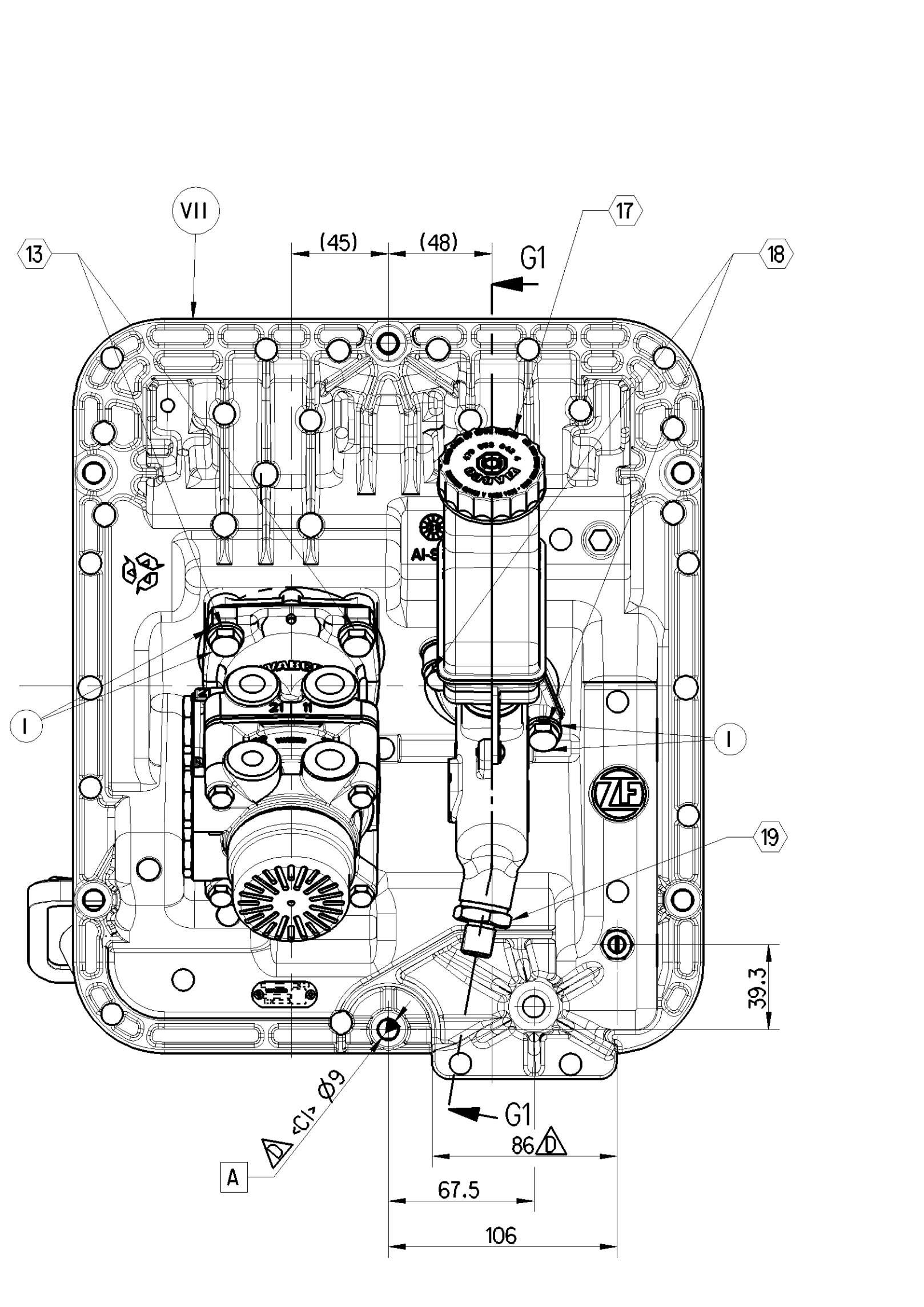
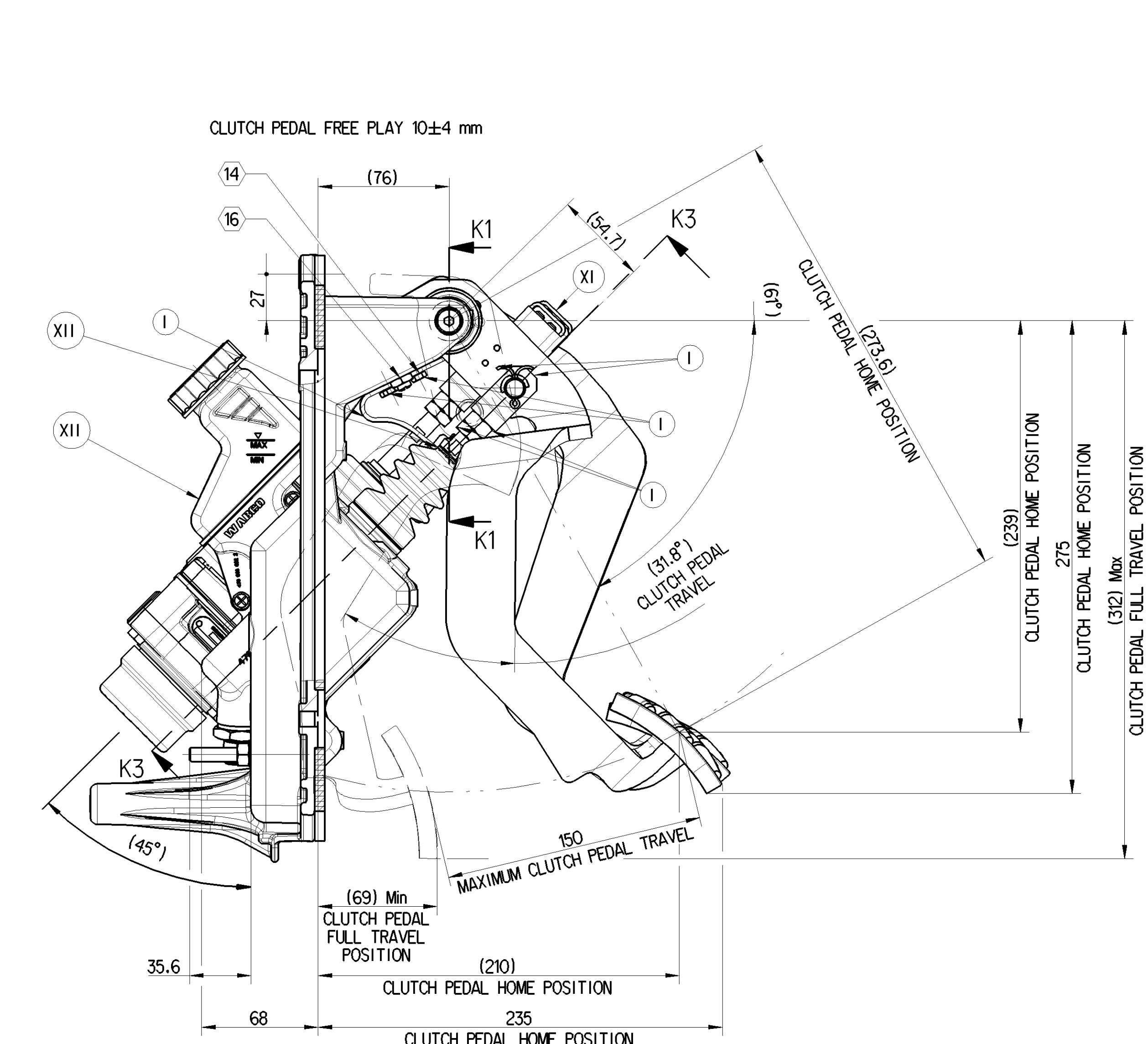
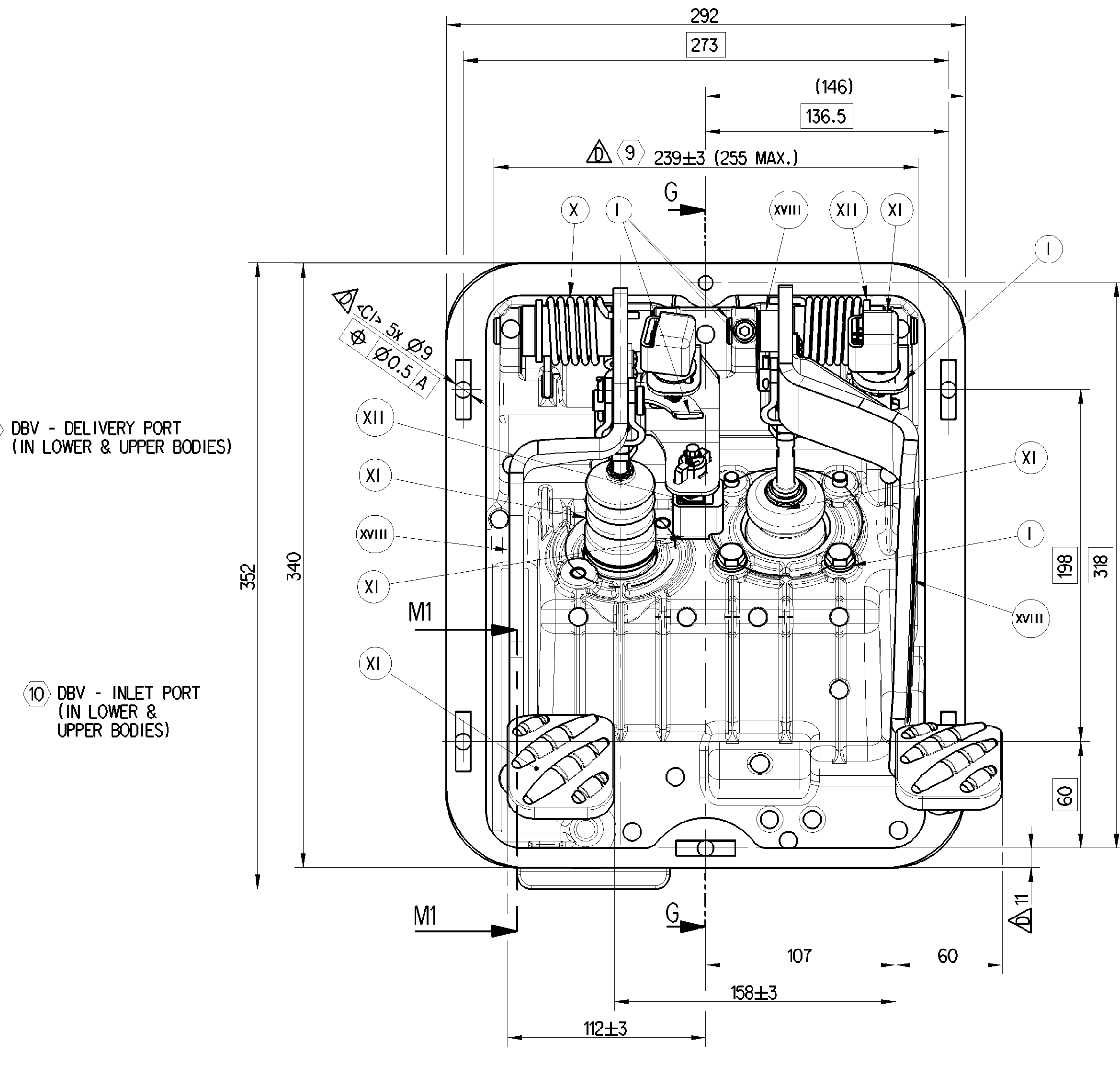
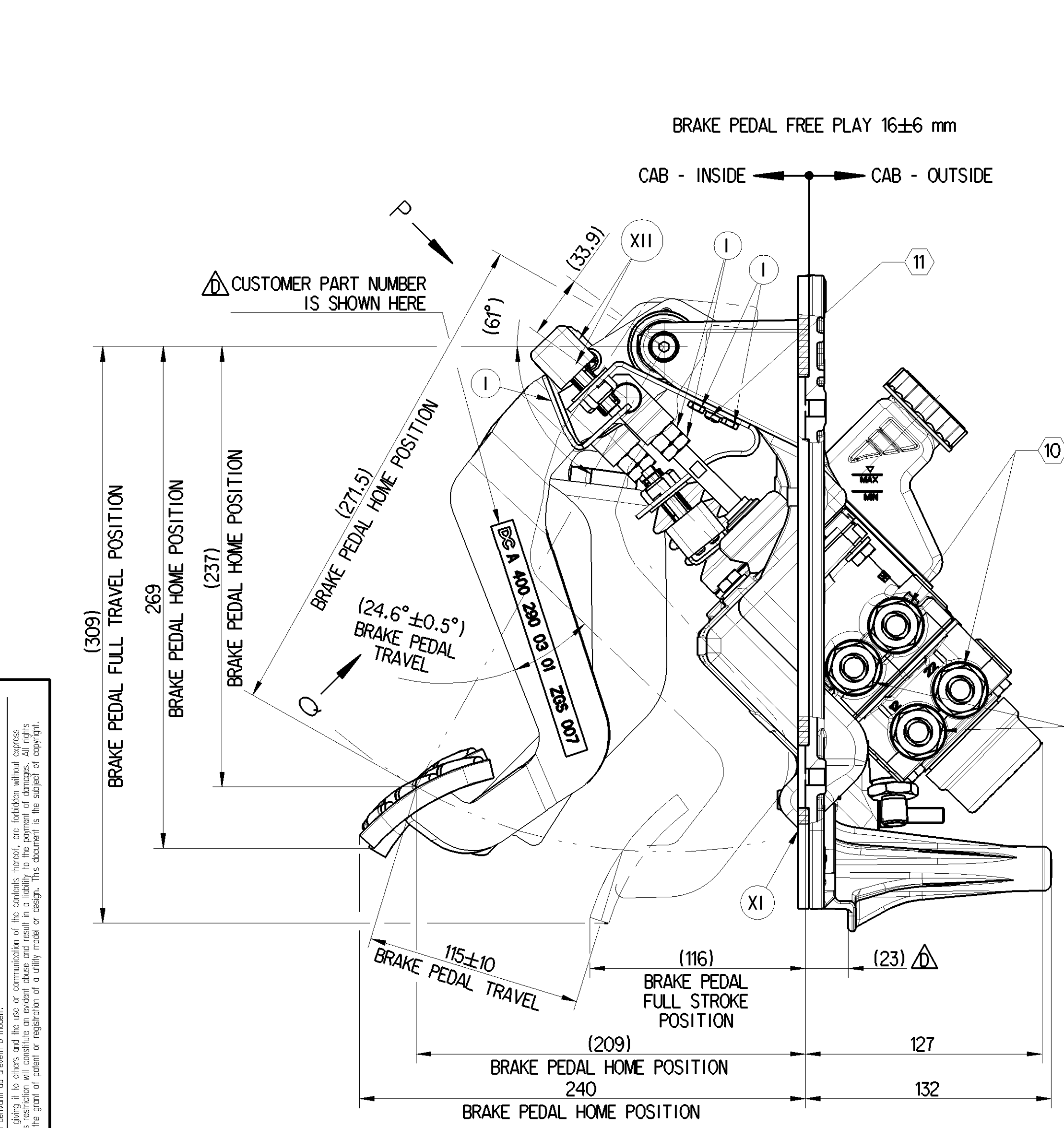
K3-K3
VIEW Q



K1-K1
2:1



G1-G1
1:1



SL.No. IPU GENERAL NOTES

1	PRODUCT FUNCTION AND RELIABILITY
1.1	PRODUCT SPECIFICATION NUMBER PS 965 001 090 0
1.2	THERMAL RANGE OF APPLICATION -40° C TO +80° C
1.3	MAXIMUM CLUTCH PEDAL FORCE WITHOUT AIR ASSISTANCE TO CLUTCH SERVO 1110 N
1.4	MAXIMUM BRAKE PEDAL FORCE TO GENERATE 8 BAR DELIVERY PRESSURE, SHOULD NOT EXCEED 345 N
1.5	SERVICE LIFE TO FIRST OVERHAUL IF FITTED AS PER RECOMMENDED LAYOUT 2.3 YEARS/ 2,50,000 Km WHICHEVER IS EARLIER FOR TRUCK AND INTERCITY BUS APPLICATION
1.6	ALL OPEN PORTS AND FITTINGS ARE FITTED WITH CLOSURE PLUG AND CLOSURE SLEEVES RESPECTIVELY FOR STORAGE AND TRANSIT PURPOSE
1.7	SALT SPRAY TEST AS PER ASTM B 117 240 HOURS FOR EXTERNAL CABIN PARTS 36 HOURS FOR INTERNAL CABIN PARTS
1.8	AGREED DVP DATE ON

SL.No. DUAL BRAKE VALVE GENERAL NOTES

1	PRODUCT FUNCTION AND RELIABILITY
1.1	DEVICE ASSEMBLY NUMBER 461 100 090 0
1.2	PRODUCT SPECIFICATION NUMBER PS 461 100 090 0
1.3	WORKING MEDIUM AIR
1.4	NORMAL WORKING PRESSURE 8 bar
1.5	MAXIMUM WORKING PRESSURE (TEMPORARILY) 10 bar
1.6	NOMINAL FLOW DIA (78.5 sq.mm) APPROX 10 mm
1.7	NOISE LEVEL WHEN TESTED AS PER PS 461 100 016 0 < 72 dBA
1.8	QUALITY COMPLIANCE TESTS WILL BE CARRIED OUT REGULARLY AS PER CLAUSE No. 6 OF PS 461 100 090 0

SL.No. CLUTCH MASTER CYLINDER GENERAL NOTES

1	PRODUCT FUNCTION AND RELIABILITY
1.1	DEVICE ASSEMBLY NUMBER 470 053 028 0
1.2	PRODUCT SPECIFICATION NUMBER PS 470 053 028 0
1.3	WORKING MEDIUM BRAKE FLUID
1.4	CYLINDER DIAMETER Ø26.125 mm
1.5	WORKING HYDRAULIC VOLUME 15 ± 0.5 CC
1.6	HYDRAULIC FLUID DOT 3 / DOT 4 BASED BRAKE FLUID IN ACCORDANCE WITH SAE J1703
1.7	MAXIMUM FLUID PRESSURE 120 bar

BRAKE PEDAL RATIO 8
CLUTCH PEDAL RATIO 5

SWITCH CHARACTERISTICS IN THE IPU:

THIS SWITCH IS A NORMALLY OPEN (NO) TYPE OF SWITCH (CLUTCH & BRAKE) AND IT DELIVERS SIGNALS AS FOLLOWS:

- IN CLUTCH SWITCH ASSEMBLY, CLUTCH SWITCH 1 SHOULD CHANGE STATE FROM CLOSE TO OPEN AT START OF CLUTCH PEDAL TRAVEL (10±8mm) AND SHOULD REMAIN IN OPEN STATE FOR THE REST OF THE TRAVEL. SIMILARLY THE CLUTCH SWITCH 2 SHOULD CHANGE STATE FROM OPEN TO CLOSE AT THE END OF CLUTCH PEDAL TRAVEL (142±8mm)
- BRAKE SWITCH SHOULD CHANGE STATE FROM CLOSE TO OPEN AT START OF BRAKE PEDAL TRAVEL (3 TO 15mm) AND SHOULD REMAIN IN OPEN STATE FOR THE REST OF THE TRAVEL
- GAP BETWEEN SWITCH AND ARM :1.3±0.3mm (CLUTCH AND BRAKE)
- CLUTCH SWITCH 1 SHOULD BE MAINTAIN AS PER VIEW P

	10	11	12	13	14	15	16	17	18	19
THREAD TYPE	M22x1.5 HEX 24 TO SUIT NG32 VOSS PLUS SYSTEM 230	PEDAL HOME POSITION ADJUSTMENT SCREW	2x DUAL BRAKE VALVE NUT HEX. 13	2x DUAL BRAKE VALVE MOUNTING SCREWS	4x SWITCH BRACKET SCREW	CLUTCH PEDAL STOPPER SCREW	CLUTCH PEDAL ADJUSTMENT SCREW	CLUTCH MASTER CYLINDER CAP	2x CLUTCH MASTER CYLINDER MOUNTING SCREWS	CLUTCH MASTER CYLINDER DELIVERY PORT
PERMISSIBLE TORQUE	10±1 N m	11±2 N m	22.5±2.5 N m	22.5±2.5 N m	5±1 N m	22.5±2.5 N m	11±2 N m	2.5±1 N m	22.5±2.5 N m	22.5±2.5 N m

NOTES

- APPLY GREASE JED 294-1 OVER THE PART SURFACE DURING THE ASSEMBLY AT 2 PLACES (BRAKE AND CLUTCH PEDAL ASSEMBLY)
- MAXIMUM MOUNTING DIMENSION OF FIREWALL

- CLUTCH SWITCH DETAILS:
- VOLTAGE : 24 V
 - CURRENT : 10 mA
 - INITIAL DEPRESSION PLUNGER FORCE 5 TO 8 N
 - FORCE TO FULLY DEPRESS PLUNGER FLUSH WITH NECK TUBE 8 TO 12 N

SAFETY CHARACTERISTICS	0
SIGNIFICANT CHARACTERISTICS	0
CUSTOMER INTERFACE	2

DAIMLER PART No./ REVISION No A 400 290 03 01 / ZGS 007

WABCO INTEGRAL PEDAL UNIT

965 001 090 0

005 EN 1/1