

Dual Valve Calibration Procedure using Dual Valve Analog Calibration Kit

Use this procedure to calibrate two valves mounted in Adjustable Dual Valve Mounting Hardware using the Dual Valve Analog Calibration Kit.

Purpose

To align two nozzles to the same relative Z-axis position. The Dual Valve Analog Calibration Kit used during this process is permanently mounted near the calibration station at the front of the dispense system work area.

References

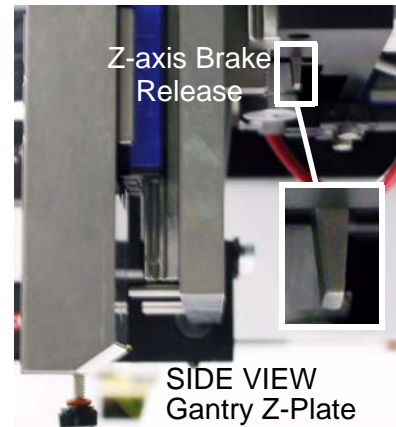
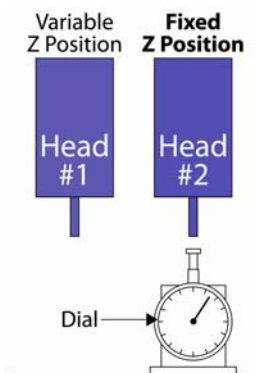
Use the following assembly drawings, located at the end of this procedure, during the calibration process:

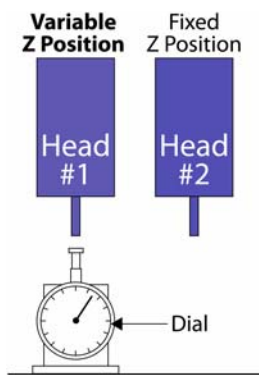
- 22295556 - Adjustable Dual Valve Mounting Hardware
- 22213000 - Dual Valve Analog Calibration Kit

Procedure

NOTE: After an initial calibration is performed, re-calibration should not be necessary after changing dispense tips unless Luer-style tips rather than precision needles are being used.

1. Open the hood or press the Motion Stop button to disable all motor movement.
2. Zero the vertical position for **Head Mount Station #2**:
 - a. Manually position the nozzle in Station #2 above the Indicator Point (Dwg 22213000, Item 4).
 - b. Pull forward on the Z-axis Brake Release (see at right and at rear of the gantry Z-plate) and move the gantry plate downward, allowing the nozzle to depress the Indicator Point for approximately 1 revolution of the Dial Indicator (Dwg 22213000, Item 3).
 - c. Release the Z-axis Brake to lock gantry Z-plate vertical motion.
 - d. Zero the Dial Indicator by rotating the dial.
 - e. Depress the Indicator Point with a finger and then move the gantry to the right making sure the needle in Station #2 does not contact the Indicator Point.

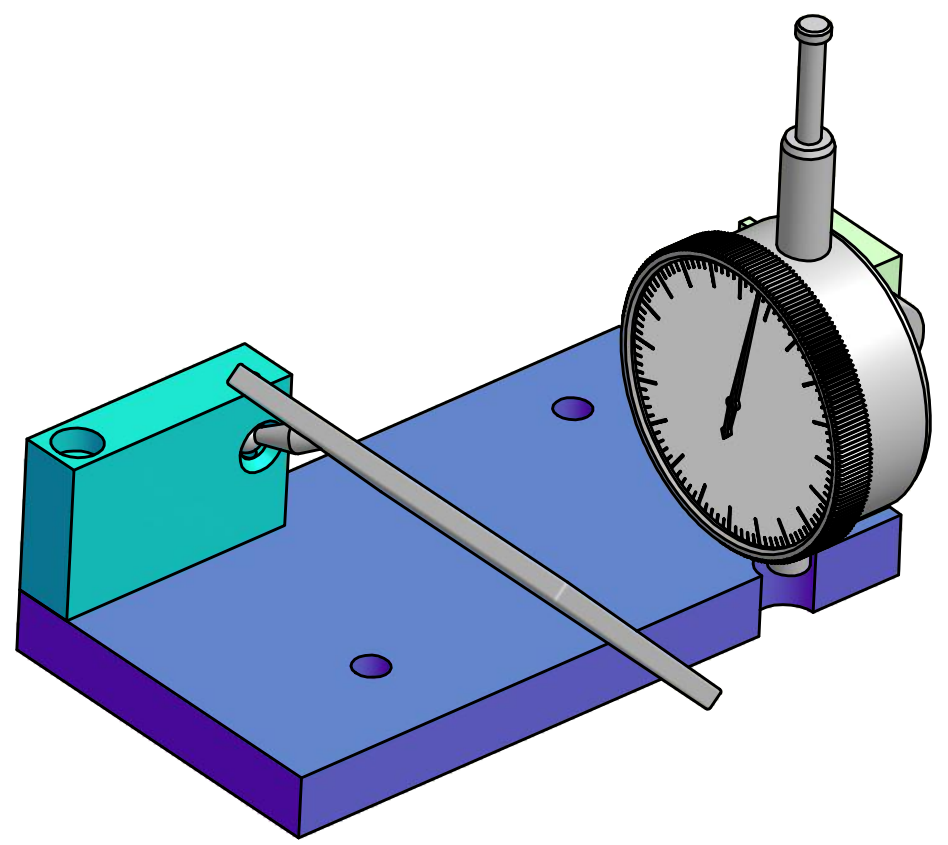
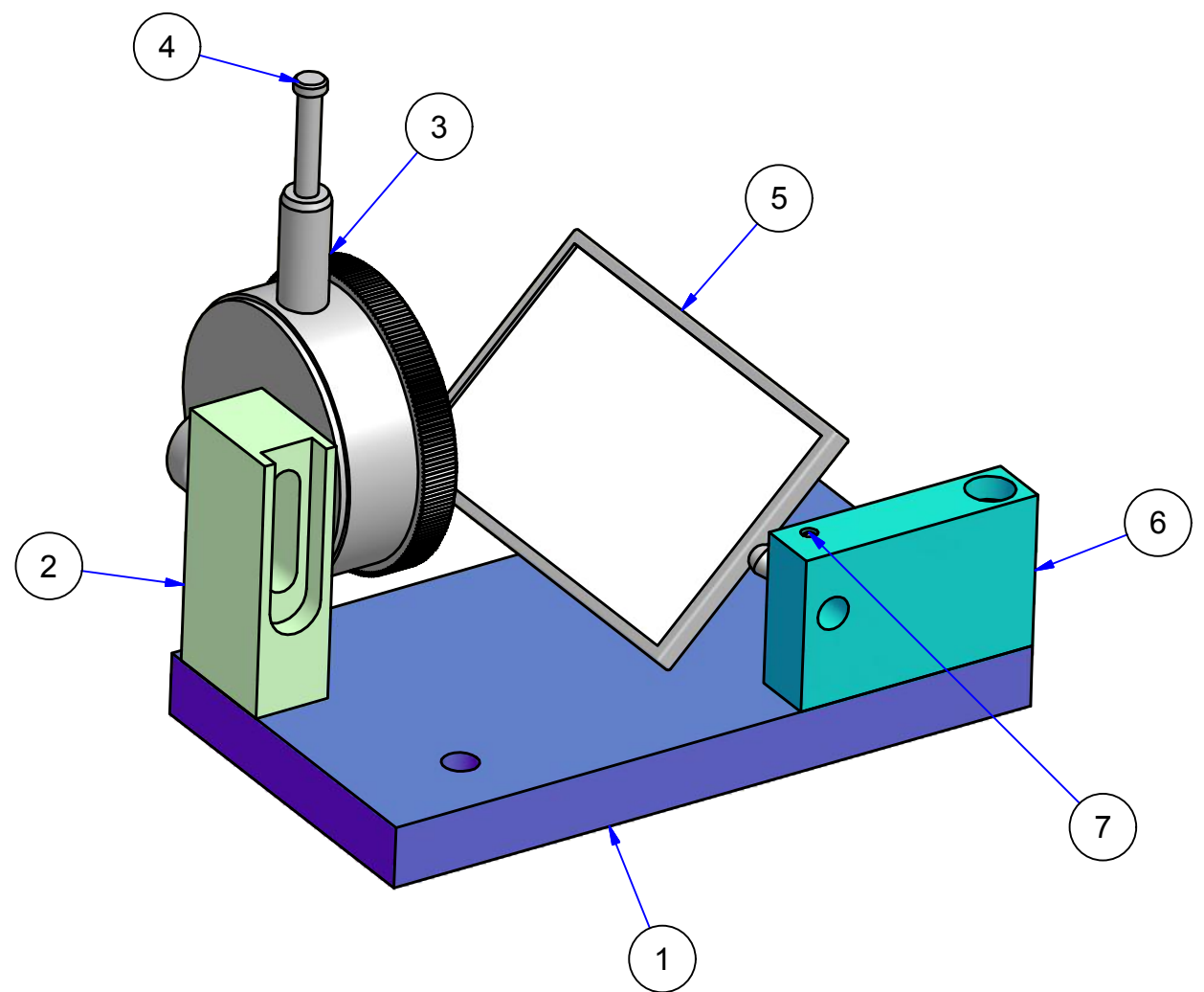




3. Zero the vertical position for **Head Mount Station #1**:
 - a. Manually depress the Indicator Point and move the nozzle in Station #1 above the Indicator Point.
 - b. Gently guide the upward movement of the Indicator Point, fully releasing it only after it contacts the nozzle.
 - c. Adjust the Z-axis position of Station #1 by turning the Z-Axis Thumb Wheel (Drawing 22295556, Item 12) until the Dial Indicator reads zero (0).
 - d. When zero (0) is attained, move the Z-axis gantry plate upward while using the Z-axis Brake Release [as described in [Step b \(pg 1\)](#)] so the Indicator Point is no longer in contact with the Station #1 nozzle.

Calibration is now complete.

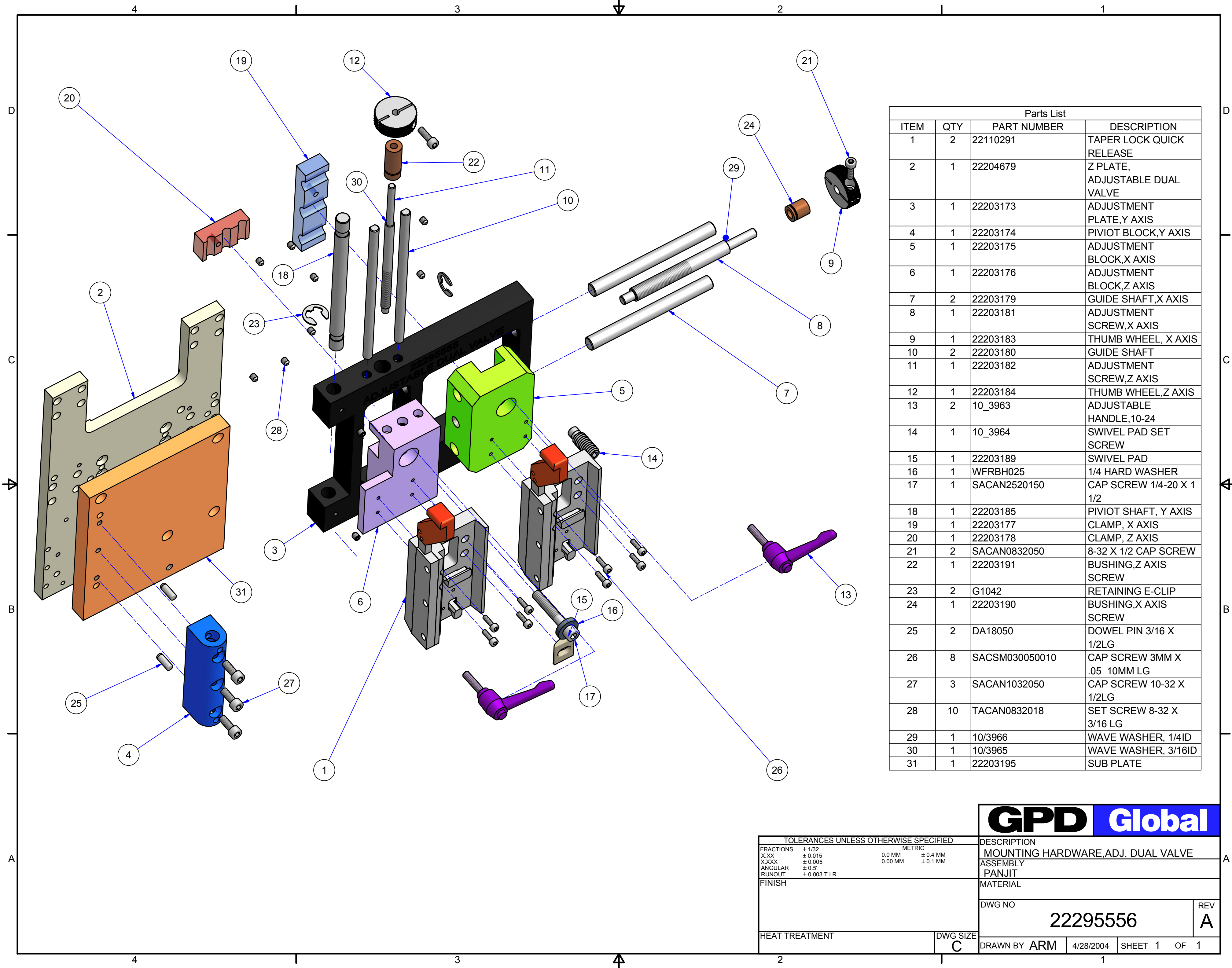
REVISION HISTORY			
REV	DATE	BY	DESCRIPTION
-	-	-	-



Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	22203397	BASE_LEVELING PLATE
2	1	22203398	BAR_VERTICAL SUPPORT_INDICATOR
3	1	10_4802	DIAL INDICATOR,1/2 TRAVEL
4	1	10/3999	INDICATOR_POINT_.3/8" DIA.
5	1	10_4810	MIRROR, 3-1/2 X 2-1/8 W/ARM
6	1	22203399	MOUNTING_BLOCK_MIRROR
7	1	B8038	BALL,NYLON,1/8

TOLERANCES UNLESS OTHERWISE SPECIFIED			
	FRACTIONS	METRIC	
	± 1/32	0 MM	± 1.0 MM
	± 0.015	0.0 MM	± 0.4 MM
	± 0.005	0.00 MM	± 0.1 MM
	± 0.5°		
	± 0.003 T.I.R.		
FINISH			
HEAT TREATMENT		DWG SIZE	
NA		B	

GPD		Global	
DESCRIPTION			
ANALOG CALIBRATION KIT_DUAL VALVE			
ASSEMBLY			
DUAL VALVE CALIBRATION			
MATERIAL			
PLATED ALUMINUM			
DWG NO			
22213000			
DRAWN BY ARM		6/19/2010	SHEET 1 OF 1



Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	22110291	TAPER LOCK QUICK RELEASE
2	1	22204679	Z PLATE, ADJUSTABLE DUAL VALVE
3	1	22203173	ADJUSTMENT PLATE, Y AXIS
4	1	22203174	PIVOT BLOCK, Y AXIS
5	1	22203175	ADJUSTMENT BLOCK, X AXIS
6	1	22203176	ADJUSTMENT BLOCK, Z AXIS
7	2	22203179	GUIDE SHAFT, X AXIS
8	1	22203181	ADJUSTMENT SCREW, X AXIS
9	1	22203183	THUMB WHEEL, X AXIS
10	2	22203180	GUIDE SHAFT
11	1	22203182	ADJUSTMENT SCREW, Z AXIS
12	1	22203184	THUMB WHEEL, Z AXIS
13	2	10_3963	ADJUSTABLE HANDLE, 10-24
14	1	10_3964	SWIVEL PAD SET SCREW
15	1	22203189	SWIVEL PAD
16	1	WFRBH025	1/4 HARD WASHER
17	1	SACAN2520150	CAP SCREW 1/4-20 X 1 1/2
18	1	22203185	PIVOT SHAFT, Y AXIS
19	1	22203177	CLAMP, X AXIS
20	1	22203178	CLAMP, Z AXIS
21	2	SACAN0832050	8-32 X 1/2 CAP SCREW
22	1	22203191	BUSHING, Z AXIS SCREW
23	2	G1042	RETAINING E-CLIP
24	1	22203190	BUSHING, X AXIS SCREW
25	2	DA18050	DOWEL PIN 3/16 X 1/2 LG
26	8	SACSM030050010	CAP SCREW 3MM X .05 10MM LG
27	3	SACAN1032050	CAP SCREW 10-32 X 1/2 LG
28	10	TACAN0832018	SET SCREW 8-32 X 3/16 LG
29	1	10/3966	WAVE WASHER, 1/4ID
30	1	10/3965	WAVE WASHER, 3/16ID
31	1	22203195	SUB PLATE

GPD Global

TOLERANCES UNLESS OTHERWISE SPECIFIED			
FRACTIONS	± 1/32	METRIC	
X.XX	± 0.015	0.0 MM	± 0.4 MM
X.XXX	± 0.005	0.00 MM	± 0.1 MM
ANGULAR	± 0.5°		
RUNOUT	± 0.003 T.I.R.		

FINISH	
HEAT TREATMENT	
DWG SIZE	C

DESCRIPTION
MOUNTING HARDWARE, ADJ. DUAL VALVE
ASSEMBLY
PANJIT
MATERIAL

DWG NO
22295556
REV
A

DRAWN BY ARM 4/28/2004 SHEET 1 OF 1