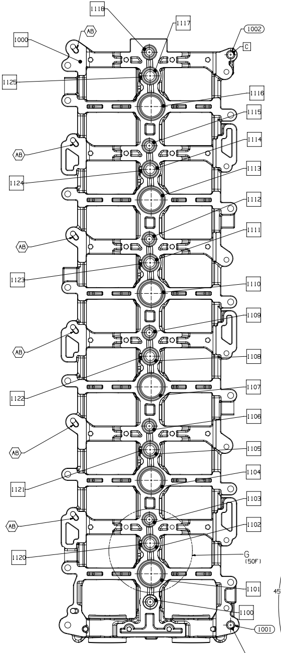
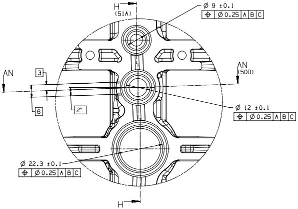
24280004

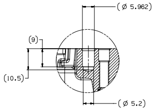
GENERAL MOTORS


1118
1117
1000
AB
1002
C
1125
1116
1115
1114
AB
1113
1124
1112
1111
AB
1123
1110
1109
AB
1108
1107
1122
1106
AB
1105
1121
1104
1103
AB
1102
1120
G
(50F)
1101
1100
1001
B

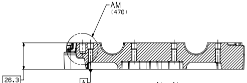
VIEW C
(24D)


H
(51A)
Ø 9 ±0.1
⊕ Ø 0.25 A B C
AN
3
AN
(50D)
6
2°
Ø 12 ±0.1
⊕ Ø 0.25 A B C
Ø 22.3 ±0.1
⊕ Ø 0.25 A B C
H

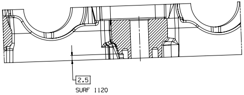
VIEW G
SCALE 2:1
6 PLACES
(52C)


(Ø 5.962)
(9)
(10.5)
(Ø 5.2)

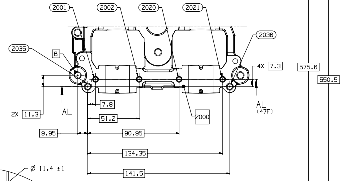
VIEW AM
SCALE 2:1
(48G)


AM
(47G)
26.3
SURF 2000
A

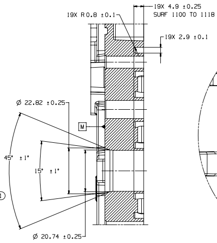
SECTION AL-AL
(46D)


2.5
SURF 1120

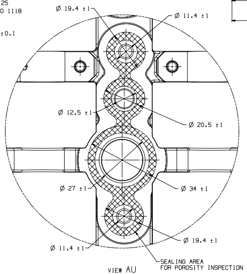
SECTION AN-AN
(49G)


2001
2002
2020
2021
2036
2035
B
4X 7.3
575.6
550.5
2X 11.3
AL
7.8
51.2
2000
AL
(47F)
9.95
90.95
134.35
141.5

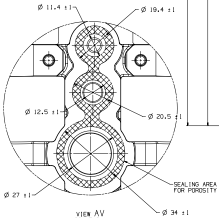
VIEW AK
(26E)


19X 4.9 ±0.25
SURF 1100 TO 1118
19X R0.8 ±0.1
19X 2.9 ±0.1
Ø 22.82 ±0.25
M
45° ±1°
15° ±1°
Ø 20.74 ±0.25

SECTION H-H
(51H)

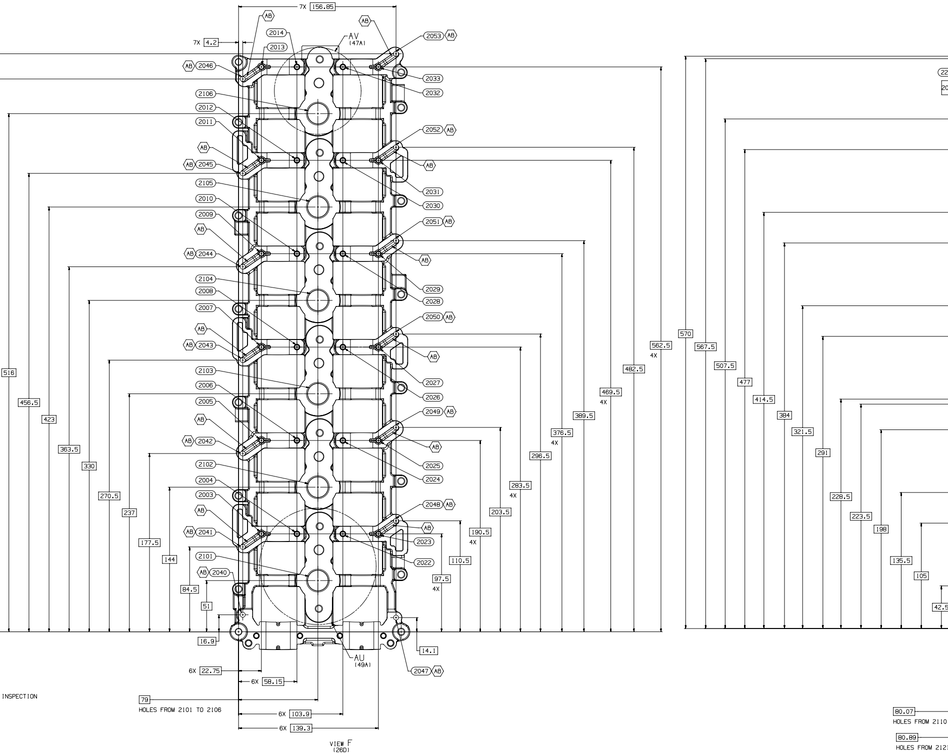

Ø 19.4 ±1
Ø 11.4 ±1
Ø 12.5 ±1
Ø 20.5 ±1
Ø 27 ±1
Ø 34 ±1
Ø 19.4 ±1
Ø 11.4 ±1
SEALING AREA
FOR POROSITY INSPECTION

VIEW AU
SCALE 2:1
(42B)


Ø 11.4 ±1
Ø 19.4 ±1
Ø 12.5 ±1
Ø 20.5 ±1
Ø 27 ±1
SEALING AREA
FOR POROSITY
Ø 34 ±1

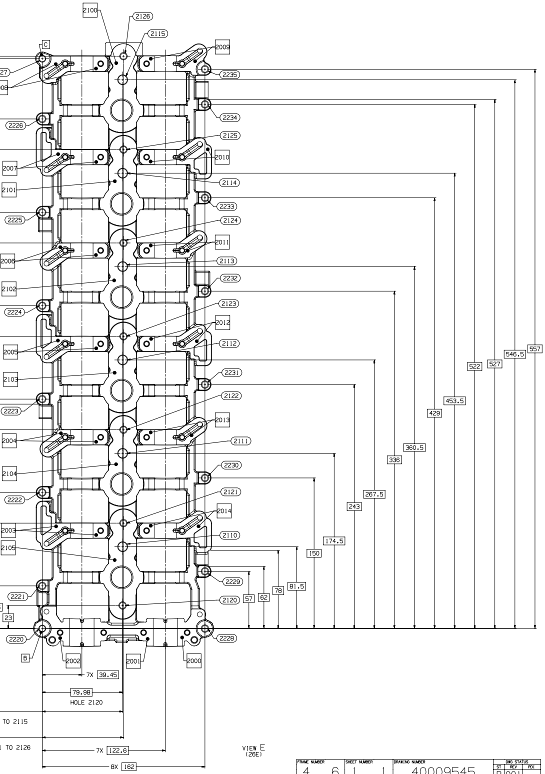
VIEW AV
SCALE 2:1
5 PLACES
(42H)

FRAME NUMBER	SHEET NUMBER	DRAWING NUMBER	DWG STATUS		
			ST	REV	PDI
6 OF 6	1 OF 1	40009545	R	001	

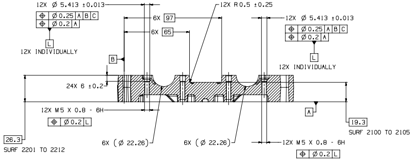

7X 156.85
7X 4.2
AV (47A)
2014
2013
2053
2046
2033
2032
2106
2012
2011
2052
2045
2031
2030
2105
2010
2009
2051
2044
2029
2028
2104
2008
2007
2050
2043
2027
2026
2103
2006
2005
2049
2042
2025
2024
2102
2004
2003
2048
2041
2023
2022
2101
2040
2047
AB
AU (49A)
516
456.5
423
363.5
330
270.5
237
177.5
144
84.5
51
16.9
14.1
97.5
4X
110.5
190.5
4X
203.5
283.5
4X
296.5
376.5
4X
389.5
469.5
4X
482.5
562.5
4X
570
567.5
507.5
477
414.5
384
321.5
291
228.5
223.5
198
135.5
105
42.5
6X 22.75
6X 58.15
6X 103.9
6X 139.3
79
HOLES FROM 2101 TO 2106
INSPECTION
80.07
HOLES FROM 2110
80.89
HOLES FROM 212

VIEW F
(26D)

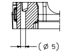
FRAME NUMBER	SHEET NUMBER	DRAWING NUMBER	DWG STATUS ST	REV	PDI
5 OF 6	1 OF 1	40009545	R	001	


2100
2126
2115
2009
C
27
008
2235
2234
2226
2125
2007
2010
2114
2101
2233
2225
2124
2011
2006
2113
2232
2102
2123
2224
2012
2005
2112
2103
2231
2122
2223
2013
2004
2111
2104
2230
2222
2121
2014
2003
2110
2105
2229
2221
2120
23
2220
2228
B
2002
2001
2000
557
546.5
527
522
453.5
429
360.5
336
267.5
243
174.5
150
81.5
78
62
57
7X 39.45
79.98
HOLE 2120
TO 2115
1 TO 2126
7X 122.6
8X 162

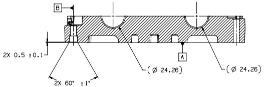
VIEW E
(26E)


12X Ø 5.413 ±0.013
⌖ Ø0.25 A B C
⌖ Ø0.2 A
L
12X INDIVIDUALLY
6X 97
6X 65
12X R0.5 ±0.25
B
24X 6 ±0.2
12X M5 X 0.8 - 6H
⌖ Ø0.2 L
26.3
SURF 2201 TO 2212
6X (Ø 22.26)
6X (Ø 22.26)
12X Ø 5.413 ±0.013
⌖ Ø0.25 A B C
⌖ Ø0.2 A
L
12X INDIVIDUALLY
A
19.3
SURF 2100 TO 2105
12X M5 X 0.8 - 6H
⌖ Ø0.2 L

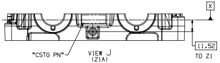
SECTION AH-AH
(20C)



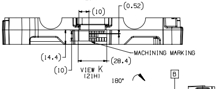
SECTION AT-AT
(22C)


B
2X 0.5 ±0.1
2X 60° ±1°
A
(Ø 24.26)
(Ø 24.26)

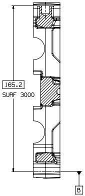
SECTION AG-AG
(20B)


X
11.52
TO Z1
"CSTG PN"

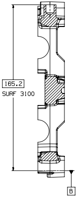
VIEW J
(21A)


(10)
(0.52)
MACHINING MARKING
(14.4)
(28.4)
(10)
180°

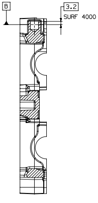
VIEW K
(21H)


165.2
SURF 3000
B

SECTION AP-AP
(25B)

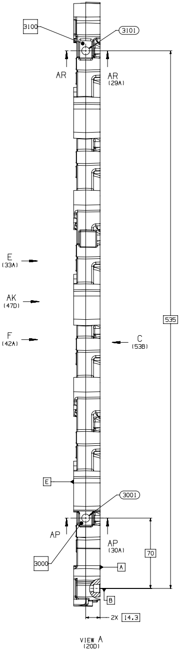

165.2
SURF 3100
B

SECTION AR-AR
(25G)


B
3.2
SURF 4000

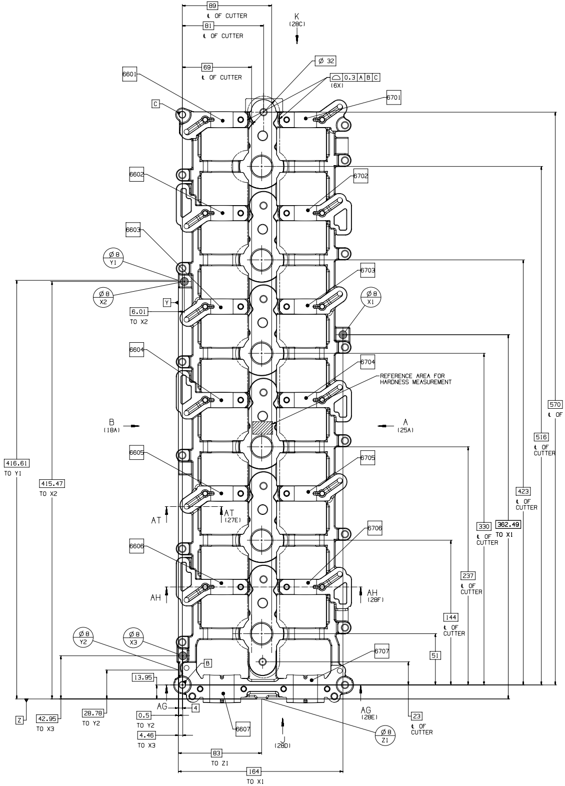
SECTION AS-AS
(18D)

FRAME NUMBER	SHEET NUMBER	DRAWING NUMBER	DWG STATUS		
			ST	REV	PDI
4 OF 6	1 OF 1	40009545	R	001	

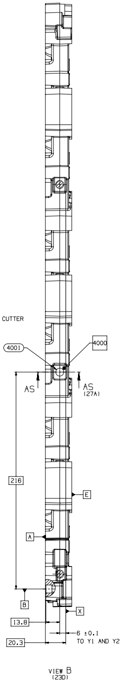


3100
3101
AR
AR
(29A)
E
(33A)
AK
(47D)
F
(42A)
C
(53B)
535
E
3001
AP
AP
(30A)
70
3000
A
B
2X 14.3

VIEW A
(20D)



89
℄ OF CUTTER
81
℄ OF CUTTER
69
℄ OF CUTTER
K
(28C)
Ø 32
0.3 A B C
(6X)
6601
6701
C
6602
6702
6603
Ø 8
Y1
Ø 8
X2
Y
6.01
TO X2
6703
Ø 8
X1
6604
6704
REFERENCE AREA FOR
HARDNESS MEASUREMENT
B
(18A)
A
(25A)
570
℄ OF CUTTER
516
℄ OF
CUTTER
416.61
TO Y1
415.47
TO X2
6605
6705
423
℄ OF
CUTTER
AT
AT
(27E)
330
℄ OF
CUTTER
362.49
TO X1
6606
6706
237
℄ OF
CUTTER
AH
AH
(28F)
144
℄ OF
CUTTER
Ø 8
Y2
Ø 8
X3
51
6707
B
13.95
AG
4
AG
(28E)
Z
42.95
TO X3
28.78
TO Y2
0.5
TO Y2
4.46
TO X3
6607
J
(28D)
23
℄ OF
CUTTER
Ø 8
Z1
83
TO Z1
164
TO X1



4001
4000
AS
AS
(27A)
216
E
A
B
X
13.8
20.3
6 ±0.1
TO Y1 AND Y2

VIEW B
(23D)

HOLE
1001
1002

HOLE
2001 2002
2003 2009 2004 2010 2005 2011 2006 2012 2007 2013 2008 2014
2020 2021
2022 2028 2023 2029 2024 2030 2025 2031 2026 2032 2027 2033
2035
2036
2040 2047 2041 2048 2042 2049 2043 2050 2044 2051 2045 2052 2046 2053
2101 2102 2103 2104 2105 2106
2110 2111 2112 2113 2114 2115
2120 2121 2122 2123 2124 2125 2126
2220 2228 2221 2229 2222 2230 2223 2231 2224 2232 2225 2233 2226 2234 2227 2235

FRAME NUMBER	SHEET NUMBER	DRAWING NUMBER	DWG STATUS
3 OF 6	1 OF 1	40009545	ST R REV 001 PDI

1000 SERIES - CYLINDER HEAD JOINT FACE

ZONE	DATUM	DESCRIPTION
52B	B	PRIMARY DOWEL SEE SECTION AG-AG (29E) Ø7.985 ±0.013 ↧6.55 ±0.5 ⌖ Ø0.25 X Y Z -- DR 15 ⊥ Ø0.1 A BASE VIEW (21A) AND SECTION AG-AG (29E)
52H	C	SECONDARY DOWEL SEE SECTION AG-AG (29E) Ø7.985 ±0.013 ↧6.55 ±0.5 ⌖ Ø0.25 X Y Z -- DR 1 ⌖ Ø0.1 B ⊥ Ø0.1 A BASE VIEW (21A)

2000 SERIES - COVER FACE

ZONE	DATUM	DESCRIPTION
48E 48E	L IND.	INTAKE CAP CM/SHF BRG MOUNTING HOLES TAP DRIL THRU M5 X 0.8 - 6H ↧ FULL THD ⌵Ø5.990 ±0.1 X 60° ±1° INCL. ⌴Ø5.413 ±0.013 ↧6 ±0.2 ⌵Ø5.2 ±0.1 X 90° ±1° INCL. ⌖ Ø0.25 A B C ⌖ Ø0.1 A INDIVIDUAL C' BORE PAIRS (Ø5.413) L INDIVIDUALLY SEE SECTION AL - AL (47F)
43C 43F 43C 43F 43D 43G 43D 43G 43E 43H 43E 43H	L IND.	INTAKE CAP CM/SHF BRG MOUNTING HOLES TAP DRIL THRU M5 X 0.8 - 6H ↧ FULL THD ⌵Ø5.990 ±0.1 X 60° ±1° INCL. ⌴Ø5.413 ±0.013 ↧6 ±0.2 ⌵Ø5.2 ±0.1 X 90° ±1° INCL. ⌖ Ø0.25 A B C ⌖ Ø0.1 A INDIVIDUAL C' BORE PAIRS (Ø5.413) L INDIVIDUALLY SEE SECTION AH - AH (28G)
47E 47E	L IND.	EXHAUST CAP CM/SHF BRG MOUNTING HOLES TAP DRIL THRU M5 X 0.8 - 6H ↧ FULL THD ⌵Ø5.990 ±0.1 X 60° ±1° INCL. ⌴Ø5.413 ±0.013 ↧6 ±0.2 ⌵Ø5.2 ±0.1 X 90° ±1° INCL. ⌖ Ø0.25 A B C ⌖ Ø0.1 A INDIVIDUAL C' BORE PAIRS (Ø5.413) L INDIVIDUALLY SEE SECTION AL - AL (47F)
41C 41E 41C 41E 41C 41F 41D 41F 41D 41G 41D 41G	L IND.	EXHAUST CAP CM/SHF BRG MOUNTING HOLES TAP DRIL THRU M5 X 0.8 - 6H ↧ FULL THD ⌵Ø5.990 ±0.1 X 60° ±1° INCL. ⌴Ø5.413 ±0.013 ↧6 ±0.2 ⌵Ø5.2 ±0.1 X 90° ±1° INCL. ⌖ Ø0.25 A B C ⌖ Ø0.1 A INDIVIDUAL C' BORE PAIRS (Ø5.413) L INDIVIDUALLY SEE SECTION AH - AH (28G)
49E	D	REAR BRG CAP PRIMARY DOWEL HOLE SEE VIEW AM (47G) ⌵Ø7.12 ±0.1 X 60° ±1° INCL. ⌴Ø5.962 ±0,013 ↧9 ±0.5 X 60° ±1° INCL. ⌵Ø5.2 ±0.1 ↧10.5 ±0.5 X 140° ±1° INCL. ⌖ Ø0.3 A B C ⊥ Ø0.1 E VIEW AM (47G)
46E		REAR BRG CAP SECONDARY DOWEL HOLE SEE VIEW AM (47G) ⌵Ø7.12 ±0.1 X 60° ±1° INCL. ⌴Ø5.962 ±0,013 ↧9 ±0.5 X 60° ±1° INCL. ⌵Ø5.2 ±0.1 ↧10.5 ±0.5 X 140° ±1° INCL. ⌖ Ø0.3 A B C ⌖ Ø0.1 D ⊥ Ø0.1 E VIEW AK (47D)
43C 41B 43C 41C 43D 41D 43E 41E 43F 41F 43F 41G 43G 41H		CAMSHAFT OIL SUPPLY BORES Ø5 ±0.1 ↧THRU ⌖ Ø0.5 A B C ⊥ Ø0.1 A VIEW F (42A)
43C 43D 43D 43E 43F 43G		INJECTOR HOLES SEE SECTION H-H (51B) Ø20.35 ±0.05 ↧THRU ⌖ Ø0.3 A B C ⊥ Ø0.1 M VIEW F (42A)
34C 34D 34E 34F 55A 56A		INJECTOR BRACKET MOUNTING HOLES Ø9 ±0.1 ↧THRU ⌵Ø10 ±1 X 90° ±1° ⌖ Ø0.5 A B C ⊥ Ø0.1 M VIEW E (34A)
34B 34C 34D 34E 34F 34G 35H		CAM COVER MOUNTING HOLES Ø6 ±0.1 ↧THRU ⌵Ø7.5 ±1 X 90° ±1° ⌖ Ø0.5 A B C ⊥ Ø0.1 M VIEW E (34A)
36B 34B 36B 34B 36C 34D 36D 34D 36E 34E 36F 34F 36G 34G 36G 34G		LADDER FRAME MOUNTING HOLES Ø6 ±0.1 ↧THRU ⌵Ø7.5 ±1 X 90° ±1° ⌖ Ø0.5 A B C ⌖ Ø0.3 A VIEW E (34A)

SURFACES

HOLE	ZONE	DATUM	DESCRIPTION
1000	55H	A	CYLINDER HEAD JOINT FACE ⌓ 0.3 X Y Z DR 2 ⏥ 0.2 DR 3 Ra 1.4 @2.5 CUT-OFF DR 16 Rz 11 @2.5 CUT-OFF DR 4 Rz1max 14 @2.5 CUT-OFF DR 5 Wt 14 @2.5 CUT-OFF DR 6 PROFILE AND FLATNESS TO BE MEASURED AS CLAMPED
1100 1101 1102 1103 1104 1105 1106 1107 1108 1109 1110 1111 1112 1113 1114 1115 1116 1117 1118	52B 52B 52C 52C 52D 52D 52D 52D 52E 52E 52E 52F 52F 52F 52G 52G 52G 53H 54H		INJECTOR SEALING SURFACES ⌓ 0.3 A B C SEE SECTION H-H Ra 1.4 @2.5 CUT-OFF Rz 11 @2.5 CUT-OFF Rz1max 14 @2.5 CUT-OFF Wt 14 @2.5 CUT-OFF
1120 1123 1121 1124 1122 1125	55C 55E 55C 55F 55D 55G		GASKET INSPECTION RELIEF ⌓ 0.5 A B C SEE VIEW G (50F)
2000 2001 2002	34B 35B 35B	E	FRONT CAM CAP MOUNTING SURFACE ⌓ 0.25 A B C DR 7 ⌓ 0.1 DR 8 3 SURFACES CO-PLANAR Ra 1.4 @2.5 CUT-OFF DR 17 Rz 11 @2.5 CUT-OFF DR 19 Rz1max 14 @2.5 CUT-OFF DR 9 Wt 14 @2.5 CUT-OFF DR 10 PROFILE AND FLATNESS TO BE MEASURED AS CLAMPED
2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014	36C 36D 36E 36F 36F 36G 34H 34G 34F 34E 34D 34C	E	CAM BEARINGS MOUNTING SURFACE ⌓ 0.35 A B C DR 20 ⏥ 0.2 DR 21 ⌓ 0.1 PAIRS Ra 1.4 @2.5 CUT-OFF DR 22 Rz 11 @2.5 CUT-OFF DR 23 Rz1max 14 @2.5 CUT-OFF DR 24 Wt 14 @2.5 CUT-OFF DR 25 PROFILE AND FLATNESS TO BE MEASURED AS CLAMPED
2100 2101 2102 2103 2104 2105	35H 36F 36E 36D 36C 36C	M	INJECTOR MOUNTING SURFACE ⌓ 0.35 A B C Ra 1.4 @2.5 CUT-OFF DR 18 Rz 11 @2.5 CUT-OFF DR 12 Rz1max 14 @2.5 CUT-OFF DR 13 Wt 14 @2.5 CUT-OFF DR 14 SEE SECTION AH-AH
3000 3100	25B 26G		MANUFACTURING TRANSFER LOCATION SPOTFACE ⌓ 0.5 A B C SEE VIEW A
4000	17D		MANUFACTURING TRANSFER LOCATING SPOTFACE ⌓ 0.5 A B C SEE VIEW B
6601 6602 6603 6604 6605 6606 6701 6702 6703 6704 6705 6706	23H 23G 23F 23E 23D 23C 20G 20G 20F 20E 20D 20C		CAM SHAFT BEARING FACES PRE MACHINED Ø22.26 ±0.1 ⌖ Ø0.2 A B C SEE SECTION AH-AH
6607 6707	22A 20B		CAM SHAFT BEARING FACES PRE MACHINED Ø24.26 ±0.1 ⌖ Ø0.2 A B C SEE SECTION AG-AG

DATUM FEATURES

A	CYLINDER HEAD JOINT FACE
B	PRIMARY DOWEL HOLE
C	SECONDARY DOWEL HOLE
D	MAIN BRG CAP PIN SEAT
E	COVER FACE
L	INT BRG CAP DOWEL SEAT
M	COVER FACE INJECTOR
X	PRIMARY CAST LOCATOR
Y	SECONDARY CAST LOCATOR
Z	TERTIARY CAST LOCATOR

CAST DATUM IDENTIFICATION

DATUM	DESCRIPTION
X	PRIMARY CAST DATUMS-ESTABLISHED BY TARGETS Ø8 X1 Ø8 X2 AND Ø8 X3
Y	PRIMARY CAST DATUMS-ESTABLISHED BY TARGETS Ø8 Y1 AND Ø8 Y2
Z	PRIMARY CAST DATUMS-ESTABLISHED BY TARGETS Ø8 Z1

MATERIAL: DIE CAST ALUMINIUM PER GMW5M-AL-C-D-Si 10Cu2Fe1-F EXCEPT NOTE BELOW:
Cu 2.0 - 3.5% Mg 0.2 - 0.4% Sn 0.3 MAX
HARDNESS: 80 HBW 10/500 MIN
SURFACES OF PART MUST MEET SOLDERING SPECIFICATIONS -SEE QUALITY DOCUMENT.
POROSITY: MAXIMUM PORE DIAMETER AND DEPTH FOR FINISHED PART

RTV	2.0
ALL OTHER GASKETED SURFACES (INCLUDING O-RING BORES)	0.5
METAL TO METAL SEAL SURFACES	1.0
CAMBORE NO POROSITY ALLOWED WITHIN 1.5mm OF EDGES OF JOURNAL OR OIL GROOVE	2.0
ALL OTHER MACHINED SURFACES	2.0
CAST SURFACES	2.0

POROSITY NOTES:
IF THE PORE IS GREATER THAN SIZE SHOWN IN THE ABOVE CHART THE PART IS SCRAP.
PORES LESS THAN 0.25mm TO BE INGORED. AND NO SPACING RULE APPLIES TO THEM.
IF THE PORE IS BETWEEN 0.25mm AND THE VALUE IN THE ABOVE CHART. THE SPACING TO THE ADJACENT PORES MUST BE CHECKED. IF THE ADJACENT PORE IS CLOSER THAN 3mm. THE PART IS SCRAP. (THE ADJACENT PORE MUST BE LARGER THAN 0.25mm)
GM PART NO. AND MANUFACTURER ID MUST APPEAR ON THIS PART FUNCTION OR APPEARANCE.
LOCATION OR OMISSION REQUIRES GM GPS ENGINEERING APPROVAL.
ONLY FINAL ASSEMBLY NUMBER TO APPEAR ON PARTS.

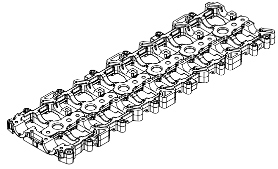
QUALITY STANDARDS FOR THIS PART NUMBER ARE DETAILED
IN THE CARRIER QUALITY DOCUMENT WHICH CAN FOUND ONLINE.
CONTACT THE DRE FOR WEBSITE ADDRESS.
UNLESS OTHERWISE SPECIFIED:
  ALL MACHINED SURFACES √Ra 3.2
  ALL TRUE POSITION TOLERANCES FOR TAPPED HOLES ARE TO MINOR DIA
  ALL DRILLS TO HAVE 140° ±1° INCLUDED PTS
  ALL MACHINED INSIDE CORNER RADII TO BE 0.25mm MIN - 1mm MAX
  ALL DRILLED HOLES WITH INTERNAL BREAKOUT MUST NOT HIT CASTING AT MAX DEPTH
THE PART MUST BE WASHED AND FREE OF CUTTING FLUID.
DIE RELEASE AGENTS AND SOAP RESIDUE.
NO WELDING OR INPREGNATION PERMITTED
MAXIMUM FLASH PERMITTED:1.0mm
GATE/OVERFLOW STUB 3.0 MAX.
CAST PART TOLERANCES TO BE ⌓ 1.5 X Y Z

3000 SERIES - EXHAUST SIDE FACE

HOLE	ZONE	DATUM	DESCRIPTION
3001	25C	G	MANUFACTURING TRANSFER LOCATIONG HOLE Ø8 ±0.1 ↧8 ±0.5 X 118° ±1° INCL. ⌖ Ø0.25 A B C VIEW A (25A)
3101	25G		MANUFACTURING TRANSFER LOCATIONG HOLE Ø8 ±0.1 ↧8 ±0.5 X 118° ±1° INCL. ⌖ Ø0.25 A B C ⌖ Ø0.1 G VIEW A (25A)

4000 SERIES - INTAKE SIDE FACE

HOLE	ZONE	DATUM	DESCRIPTION
4001	18D		MANUFACTURING TRANSFER LOCATING HOLE Ø8 ±0.1 ↧8 ±0.5 X 118° ±1° INCL. ⌖ Ø0.25 A B C VIEW B (18A)



ISOMETRIC VIEW

FRAME NUMBER	SHEET NUMBER	DRAWING NUMBER	DWG STATUS ST	REV	PDI
2 OF 6	1 OF 1	40009545	R	001	

	1	02	
	A	01	
HIERARCHY /QUANTITY		DWG ITM	ZONE

ZONE	DWG STATUS DATE	ST	REV	POS	PDI	REVISION HISTORY	AUTH	DR	APVD 1	APVD 2	APVD 3	APVD 4	APVD 5
	27MR24	R	001			RELEASED TO BETA AT DLS A	BZS5P	ABS					

GM KCDS SHALL BE ADMINISTERED IN ACCORDANCE WITH THE LATEST VERSIONS OF GMW15049 AND KCDS TEMPLATES.

KPC #	PQC #	AQC #	DR #		
0	0	2	25	LAST NUMBER USED	KPC (KEY PRODUCT CHARACTERISTIC) PQC (PRODUCT QUALITY CHARACTERISTIC) AQC (ATTRIBUTE QUALITY CHARACTERISTIC) DR (DOCUMENTATION REQUIRED)
0	0	2	25	TOTAL BY COLUMN	

KPC # KPC NO.	PQC # PQC NO.	AQC # AQC NO.	DR # DR NO.	CHARACTERISTIC	RATIONALE	ZONE	SH	PLCS
			1	DOWEL POSITION	FUNCTION	15H	1	1
			2	PROFILE CH JOINT FACE	FUNCTION	11H	1	1
			3	FLATNESS CH JOINT FACE	FUNCTION	11H	1	1
			4	ROUGHNESS CH JOINT FACE	FUNCTION	10H	1	1
			5	ROUGHNESS CH JOINT FACE	FUNCTION	10H	1	1
			6	WAVENESS CH JOINT FACE	FUNCTION	10H	1	1
			7	PROFILE COVER FACE	FUNCTION	11F	1	1
			8	FLATNESS COVER FACE	FUNCTION	11F	1	1
			9	ROUGHNESS CAM BEARINGS	FUNCTION	10F	1	1
			10	WAVENESS CAM BEARINGS	FUNCTION	10F	1	1
			11	CLEANLINESS PART	FUNCTION	6D	1	1
			12	ROUGHNESS HEAD FACE	FUNCTION	10E	1	1
			13	ROUGHNESS HEAD FACE	FUNCTION	10E	1	1
			14	ROUGHNESS HEAD FACE	FUNCTION	10E	1	1
		1		SEALING	FUNCTION	6C	1	1
			15	DOWEL POSITION	FUNCTION	15H	1	1
		2		OIL PASSAGE	FUNCTION	5C	1	1
			16	ROUGHNESS CH JOINT	FUNCTION	10H	1	1
			17	ROUGHNESS CAM BEARINGS	FUNCTION	10F	1	1
			18	ROUGHNESS INJ	FUNCTION	10E	1	1
			19	ROUGHNESS CAM BEARINGS	FUNCTION	10F	1	1
			20	PROFILE COVER FACE	FUNCTION	11E	1	1
			21	FLATNESS COVER FACE	FUNCTION	11E	1	1
			22	ROUGHNESS CAM BEARINGS	FUNCTION	10E	1	1
			23	ROUGHNESS CAM BEARINGS	FUNCTION	10E	1	1
			24	ROUGHNESS CAM BEARINGS	FUNCTION	10E	1	1
			25	WAVENESS CAM BEARINGS	FUNCTION	10E	1	1

PRELIMINARY
DRAWING
CURRENT TO XXX/XXXX
UNCHECKED
AND
UNRELEASED

WHERE DIMENSIONS ARE SPECIFIED ON THE DRAWING. THE DRAWING IS THE AUTHORITY FOR DIMENSIONAL VALUES.

WHERE DIMENSIONS ARE NOT SPECIFIED ON THE DRAWING. THE DIGITAL MODEL IS THE AUTHORITY FOR DIMENSIONAL VALUES.

DIMENSIONS OBTAINED FROM THE DIGITAL MODEL ARE BASIC:
1. FOR RELATIONSHIPS BETWEEN FEATURES WHEN ESTABLISHED BY GEOMETRIC TOLERANCES.
2. FOR THE FORM OF A FEATURE WHEN CONTROLLED BY A PROFILE TOLERANCE.
3. FOR THE SIZE . FROM AND/OR RELATIONSHIP BETWEEN FIXED DATUM TARGETS.

DIMENSIONS OBTAINED FROM THE DIGITAL MODEL ARE ROUNDED TO TWO DECIMAL PLACES (PER IEEE/ASTM SI 10-2002)

THE DIGITAL MODEL MUST CORRESPOND TO THE RELEASE LEVEL SHOW IN THE PART HEAD ON THIS DOCUMENT.

PARTS AS DELIVERED TO MACHINING/ASSEMBLY SHALL BE CLEAN AND FREE OF DEBRIS, RESIDUAL ABRASIVE MATERIAL, AND CORROSION PRODUCTS ADVERSELY AFFECTING FUNCTION OR APPEARANCE.

DEBRIS ON FINISHED PARTS SHALL BE MEASURED USING A PROCEDURE (SUCH AS GMW16037) APPROVED BY THE GM MATERIALS ENGINEER, REGULARLY MONITORED AND CONTROLLED USING STATISTICAL METHODS AND UPPER CONTROL LIMITS AS DEFINED IN THE AIAG STATISTICAL PROCESS CONTROL REFERENCE MANUAL, WITH THE UPPER CONTROL LIMITS AND PROCEDURES DEFINED IN THE SUPPLIER PROCESS CONTROL PLAN.

DR 11 DEBRIS SHALL NOT EXCEED VALUES IN THE TABLE BELOW WHEN MEASURED PER TEST METHOD GMW16037.

CONTROL LOCATION	MAXIMUM MASS DEBRIS ALLOWED
ALL	20 mg

FOR SPECIFICATION AND INTERPRETATION OF KCDS BLOCK AND DRAWING SYMBOLS, SEE GM GLOBAL KCDS STANDARD GMW15049 AND GENERAL MOTORS PROCEDURE ETQ-114.

AB THESE OIL PASSAGES MUST BE ALWAYS OPEN AQC 2

AQC 1 LEAK TEST SPECIFICATION:
INJECTOR SEALING AREA LEAK TEST 12 CC/MIN @140 kPa

SURFACE TO BE LEAK TESTED ARE:
- FROM 1100 TO 1118
  2100 TO 2105
- HOLES FROM 2101 TO 2106

SURFACE ROUGHNESS PER GMW16676	WORKPIECE EDGES PER ISO 13715 -0.3
VIEWS AND SECTIONS ON THIS DRAWING ARE IN ACCORDANCE WITH GM S1100-2	
RESTRICTED AND REPORTABLE SUBSTANCES FOR PARTS PER GMW3059	
THIS DOCUMENT IS IN ACCORDANCE WITH ASME Y14.5-2018 AS AMENDED BY THE GM GLOBAL DIMENSIONING AND TOLERANCING ADDENDUM-2020 (GMW16812)	

CHANGE RESTRICTED NO MANUAL CHANGES	REFERENCE	DRAFTER A.BARRESI	DATE 27MR24
FOR FURTHER DRAFTING STANDARDS SEE GM S1100		APVD1	
		APVD2	
		APVD3	
		APVD4	
METRIC DIMENSIONS SHOWN IN MILLIMETERS UNLESS OTHERWISE SPECIFIED		APVD5	
	DRAWING NAME CARRIER ASM-CM/SHF		

FRAME NUMBER	SIZE	DRAWING NUMBER	DWG STATUS ST	REV	PDI	SHEET NUMBER
1 OF 6	R	40009545	R	001		1 OF 1

DWG RLTN SHIP	PART NUMBER	DLS	REV LVL	PDI	CALC MASS (kg)	PART NAME	COMMENT
RD	40009544	A	001		2.632	CARRIER-CM/SHF	
RD	40009545	A	001		2.3456	CARRIER ASM-CM/SHF	

PARTS SHOWN ON DRAWING

40009545