Thread Repair Specifications
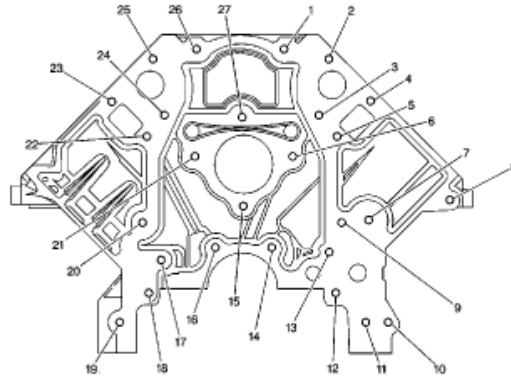
Engine Block

				Engine Block – Front View				
Hole	Thread Size	Insert	Drill	Counterbore Tool	Tap	Driver	Drill Depth – Maximum mm (in)	Tap Depth – Maximum mm (in)
1–6	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	22.5 (0.885)	17.5 (0.688)
7	M10 x 1.5	J 42385-215	J 42385-211	J 42385-212	J 42385-213	J 42385-214	25.0 (0.984)	19.5 (0.767)
8	M10 x 1.5	J 42385-215	J 42385-211	J 42385-212	J 42385-213	J 42385-214	32.5 (1.28)	25.0 (0.984)
9	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	22.5 (0.885)	17.5 (0.688)
10	M10 x 1.5	J 42385-215	J 42385-211	J 42385-212	J 42385-213	J 42385-214	Thru	Thru
11–13	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	22.5 (0.885)	17.5 (0.688)
14	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	Thru	18.0 (0.708)
15	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	22.5 (0.885)	17.5 (0.688)
16	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	Thru	18.0 (0.708)
17–27	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	22.5 (0.885)	17.5 (0.688)

Engine Block - Front View

Engine Block

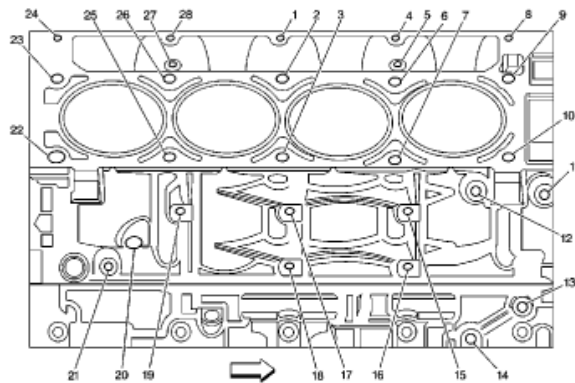| Hole	Thread Size	Insert	Drill	Counterbore Tool	Tap	Driver	Drill Depth – Maximum mm (in)	Tap Depth – Maximum mm (in)
Engine Block – Rear View								
1	M10 x 1.5	J 42385-215	J 42385-211	J 42385-212	J 42385-213	J 42385-214	27.0 (1.06)	21.5 (0.846)
2–4	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	22.5 (0.885)	17.5 (0.688)
5–6	M10 x 1.5	J 42385-215	J 42385-211	J 42385-212	J 42385-213	J 42385-214	27.0 (1.06)	21.5 (0.846)
7–13	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	22.5 (0.885)	17.5 (0.688)
14–16	M10 x 1.5	J 42385-215	J 42385-211	J 42385-212	J 42385-213	J 42385-214	27.0 (1.06)	21.5 (0.846)
17–18	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	22.5 (0.885)	17.5 (0.688)

Engine Block - Rear View

Engine Block

Engine Block – Left Side View								
Hole	Thread Size	Insert	Drill	Counterbore Tool	Tap	Driver	Drill Depth – Maximum mm (in)	Tap Depth – Maximum mm (in)
1	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	26.5 (1.04)	19.0 (0.784)
2–3	M11 x 2.0	J 42385-108	J 42385-105	—	J 42385-106	J 42385-107	69.0 (2.72)	60.0 (2.36)
4	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	26.5 (1.04)	19.0 (0.784)
5	M6 x 1.0	J 42385-205	J 42385-201	J 42385-202	J 42385-203	J 42385-204	22.5 (0.885)	16.0 (0.629)
6–7	M11 x 2.0	J 42385-108	J 42385-105	—	J 42385-106	J 42385-107	69.0 (2.72)	60.0 (2.36)
8	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	26.5 (1.04)	19.0 (0.784)
9	M11 x 2.0	J 42385-108	J 42385-105	—	J 42385-106	J 42385-107	69.0 (2.72)	60.0 (2.36)
10	M11 x 2.0	J 42385-108	J 42385-105	—	J 42385-106	J 42385-107	69.0 (2.72)	60.0 (2.36)
11	M16 x 1.5	—	—	—	—	—	—	—
12–17	M10 x 1.5	J 42385-215	J 42385-211	J 42385-212	J 42385-213	J 42385-214	29.0 (1.14)	23.0 (0.905)
18	M28 x 1.25	—	—	—	—	—	—	—
19–20	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	21.0 (0.826)	16.0 (0.629)
21	M16 x 1.5	—	—	—	—	—	—	—
22	M10 x 1.5	J 42385-215	J 42385-211	J 42385-212	J 42385-213	J 42385-214	27.0 (1.06)	21.5 (0.846)
23	M11 x 2.0	J 42385-108	J 42385-105	—	J 42385-106	J 42385-107	69.0 (2.72)	60.0 (2.36)
24	M11 x 2.0	J 42385-108	J 42385-105	—	J 42385-106	J 42385-107	69.0 (2.72)	60.0 (2.36)
25	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	26.5 (1.04)	19.0 (0.784)

Engine Block – Left Side View								
Hole	Thread Size	Insert	Drill	Counterbore Tool	Tap	Driver	Drill Depth – Maximum mm (in)	Tap Depth – Maximum mm (in)
26–27	M11 x 2.0	J 42385-108	J 42385-105	—	J 42385-106	J 42385-107	69.0 (2.72)	60.0 (2.36)
28	M6 x 1.0	J 42385-205	J 42385-201	J 42385-202	J 42385-203	J 42385-204	22.5 (0.885)	16.0 (0.629)
29	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	26.5 (1.04)	19.0 (0.784)
Bolt holes 2, 3, 6, 7, 9, 10, 23, 24, 26, and 27 have a 30 mm (1.18 in) counterbore included in the 69.0 mm (2.72 in) drill depth. Use sleeve J 42385–315 with the drill and tap.								

Engine Block - Left Side View

Engine Block

				Engine Block – Right Side View				
Hole	Thread Size	Insert	Drill	Counterbore Tool	Tap	Driver	Drill Depth – Maximum mm (in)	Tap Depth – Maximum mm (in)
1	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	26.5 (1.04)	19.0 (0.784)
2–3	M11 x 2.0	J 42385-108	J 42385-105	—	J 42385-106	J 42385-107	69.0 (2.72)	60.0 (2.36)
4	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	26.5 (1.04)	19.0 (0.784)
5	M6 x 1.0	J 42385-205	J 42385-201	J 42385-202	J 42385-203	J 42385-204	22.5 (0.885)	15.0 (0.590)
6–7	M11 x 2.0	J 42385-108	J 42385-105	—	J 42385-106	J 42385-107	69.0 (2.72)	60.0 (2.36)
8	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	26.5 (1.04)	19.0 (0.784)
9	M11 x 2.0	J 42385-108	J 42385-105	—	J 42385-106	J 42385-107	69.0 (2.72)	60.0 (2.36)
10	M11 x 2.0	J 42385-108	J 42385-105	—	J 42385-106	J 42385-107	69.0 (2.72)	60.0 (2.36)
11–14	M10 x 1.5	J 42385-215	J 42385-211	J 42385-212	J 42385-213	J 42385-214	27.0 (1.06)	21.5 (0.846)
15–19	M10 x 1.5	J 42385-215	J 42385-211	J 42385-212	J 42385-213	J 42385-214	29.0 (1.14)	23.0 (0.905)
20	M16 x 1.5	—	—	—	—	—	—	—
21	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	22.5 (0.885)	17.5 (0.688)
22	M11 x 2.0	J 42385-108	J 42385-105	—	J 42385-106	J 42385-107	69.0 (2.72)	60.0 (2.36)
23	M11 x 2.0	J 42385-108	J 42385-105	—	J 42385-106	J 42385-107	69.0 (2.72)	60.0 (2.36)
24	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	26.5 (1.04)	19.0 (0.784)
25–26	M11 x 2.0	J 42385-108	J 42385-105	—	J 42385-106	J 42385-107	69.0 (2.72)	60.0 (2.36)
27	M6 x 1.0	J 42385-	J 42385-	J 42385-202	J 42385-	J 42385-	22.5 (0.885)	15.0 (0.590)

				Engine Block – Right Side View				
Hole	Thread Size	Insert	Drill	Counterbore Tool	Tap	Driver	Drill Depth – Maximum mm (in)	Tap Depth – Maximum mm (in)
		205	201		203	204		
28	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	26.5 (1.04)	19.0 (0.784)
Bolt holes 2, 3, 6, 7, 9, 10, 22, 23, 25, and 26 have a 30 mm (1.18 in) counterbore included in the 69.0 mm (2.72 in) drill depth. Use sleeve J 42385–315 with the drill and tap.								

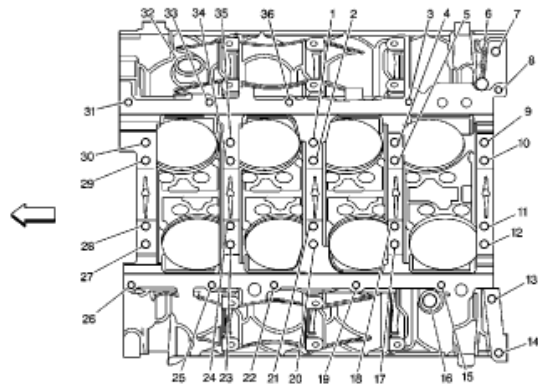**Engine Block - Right Side View**

Engine Block

Hole	Thread Size	Insert	Drill	Counterbore Tool	Tap	Driver	Drill Depth – Maximum mm (in)	Tap Depth – Maximum mm (in)
1	M10 x 2.0	J 42385-104	J 42385-101	—	J 42385-102	J 42385-103	31.0 (1.22)	25.5 (1.0)
2	M10 x 2.0	J 42385-104	J 42385-101	—	J 42385-102	J 42385-103	53.5 (2.10)	44.0 (1.73)
3	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	22.5 (0.885)	17.5 (0.688)
4	M10 x 2.0	J 42385-104	J 42385-101	—	J 42385-102	J 42385-103	31.0 (1.22)	25.5 (1.0)
5	M10 x 2.0	J 42385-104	J 42385-101	—	J 42385-102	J 42385-103	53.5 (2.10)	44.0 (1.73)
6	M16 x 1.5	—	—	—	—	—	—	—
7	N/A	—	—	—	—	—	—	—
8	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	22.5 (0.885)	17.5 (0.688)
9	M10 x 2.0	J 42385-104	J 42385-101	—	J 42385-102	J 42385-103	31.0 (1.22)	25.5 (1.0)
10–11	M10 x 2.0	J 42385-104	J 42385-101	—	J 42385-102	J 42385-103	53.5 (2.10)	44.0 (1.73)
12	M10 x 2.0	J 42385-104	J 42385-101	—	J 42385-102	J 42385-103	31.0 (1.22)	25.5 (1.0)
13–14	M10 x 1.5	J 42385-215	J 42385-101	—	J 42385-213	J 42385-214	42.5 (1.67)	37.0 (1.45)
15	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	22.5 (0.885)	17.5 (0.688)
16	M16 x 1.5	—	—	—	—	—	—	—
17	M10 x 2.0	J 42385-104	J 42385-101	—	J 42385-102	J 42385-103	53.5 (2.10)	44.0 (1.73)
18	M10 x 2.0	J 42385-104	J 42385-101	—	J 42385-102	J 42385-103	31.0 (1.22)	25.5 (1.0)
19	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	22.5 (0.885)	17.5 (0.688)
20	M10 x 2.0	J 42385-104	J 42385-101	—	J 42385-102	J 42385-103	53.5 (2.10)	44.0 (1.73)
21	M10 x 2.0	J 42385-104	J 42385-101	—	J 42385-102	J 42385-103	31.0 (1.22)	25.5 (1.0)
22	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	22.5 (0.885)	17.5 (0.688)
23	M10 x 2.0	J 42385-104	J 42385-101	—	J 42385-102	J 42385-103	31.0 (1.22)	25.5 (1.0)
24	M10 x 2.0	J 42385-104	J 42385-101	—	J 42385-102	J 42385-103	53.5 (2.10)	44.0 (1.73)
25–26	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	22.5 (0.885)	17.5 (0.688)
27	M10 x	J 42385-	J 42385-	—	J 42385-	J 42385-	31.0 (1.22)	25.5 (1.0)

							Drill Depth – Maximum mm (in)	Tap Depth – Maximum mm (in)
Hole	Thread Size	Insert	Drill	Counterbore Tool	Tap	Driver		
	2.0	104	101		102	103		
28–29	M10 x 2.0	J 42385-104	J 42385-101	—	J 42385-102	J 42385-103	53.5 (2.10)	44.0 (1.73)
30	M10 x 2.0	J 42385-104	J 42385-101	—	J 42385-102	J 42385-103	31.0 (1.22)	25.5 (1.0)
31	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	22.5 (0.885)	17.5 (0.688)
32	M28 x 1.25	—	—	—	—	—	—	—
33	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	22.5 (0.885)	17.5 (0.688)
34	M10 x 2.0	J 42385-104	J 42385-101	—	J 42385-102	J 42385-103	53.5 (2.10)	44.0 (1.73)
35	M10 x 2.0	J 42385-104	J 42385-101	—	J 42385-102	J 42385-103	31.0 (1.22)	25.5 (1.0)
36	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	22.5 (0.885)	17.5 (0.688)

Engine Block – Bottom View

- Bolt holes 2, 5, 10, 11, 18, 21, 24, 28, 29, and 34 have a 20.5 mm (0.807 in) counterbore included in the 53.5 mm (2.10 in) drill depth.
- Bolt holes 1, 4, 9, 12, 17, 20, 23, 27, 30, and 35 have a 1.5 mm (0.059 in) counterbore included in the 31.0 mm (1.22 in) drill depth. Use sleeve J 42385-316 with the drill and tap.
- Bolt holes 13 and 14 have a 11.5 mm (0.452 in) counterbore included in the 42.5 mm (1.67 in) drill depth. Use sleeve J 42385-311 with the drill and tap.
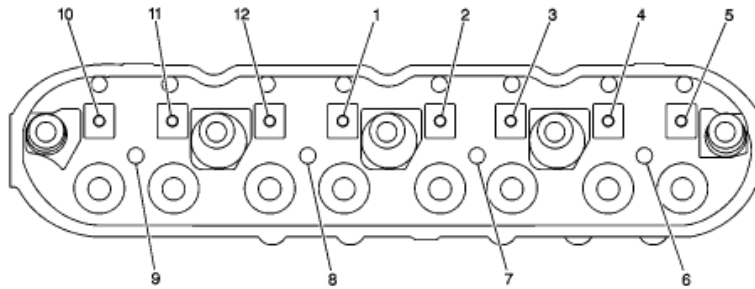
Engine Block - Bottom View
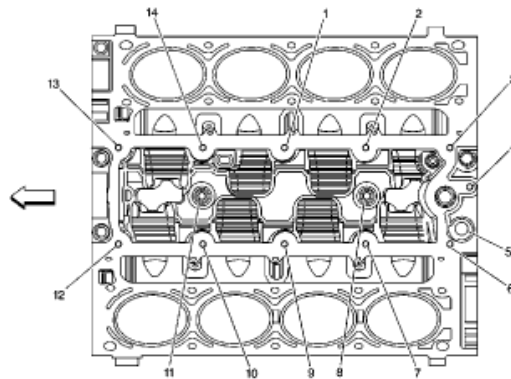
Engine Block

Engine Block – Top View								
Hole	Thread Size	Insert	Drill	Counterbore Tool	Tap	Driver	Drill Depth – Maximum mm (in)	Tap Depth – Maximum mm (in)
1–4	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	26.5 (1.04)	19.0 (0.784)
5	M16 x 1.5	—	—	—	—	—	—	—
6–7	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	26.5 (1.04)	19.0 (0.784)
8	M10 x 1.5	J 42385-216	J 42385-211	J 42385-212	J 42385-213	J 42385-214	22.5 (0.885)	17.0 (0.669)
9–10	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	26.5 (1.04)	19.0 (0.784)
11	M10 x 1.5	J 42385-216	J 42385-211	J 42385-212	J 42385-213	J 42385-214	22.5 (0.885)	17.0 (0.669)
12– 14	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	26.5 (1.04)	19.0 (0.784)

Engine Block - Top View

Cylinder Head

Cylinder Head – Top View								
Hole	Thread Size	Insert	Drill	Counterbore Tool	Tap	Driver	Drill Depth – Maximum mm (in)	Tap Depth – Maximum mm (in)
1–5	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	26.5 (1.04)	19.0 (0.784)
6–9	M6 x 1.0	J 42385-205	J 42385-201	J 42385-202	J 42385-203	J 42385-204	20.05 (0.789)	16.05 (0.632)
10– 12	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	26.5 (1.04)	19.0 (0.784)

Cylinder Head - Top View
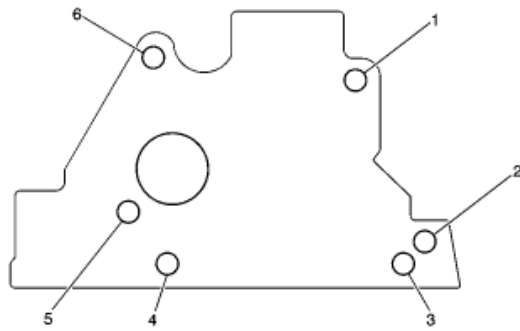
Cylinder Head

	Cylinder Head – End View							
Hole	Thread Size	Insert	Drill	Counterbore Tool	Tap	Driver	Drill Depth – Maximum mm (in)	Tap Depth – Maximum mm (in)
1	M10 x 1.5	J 42385-215	J 42385-211	J 42385-212	J 42385-213	J 42385-214	28.0 (1.10)	20.0 (0.787)
2	—	N/A	—	—	—	—	—	—
3	M10 x 1.5	J 42385-215	J 42385-211	J 42385-212	J 42385-213	J 42385-214	28.0 (1.10)	20.0 (0.787)
4	N/A	—	—	—	—	—	—	—
5–6	M10 x 1.5	J 42385-215	J 42385-211	J 42385-212	J 42385-213	J 42385-214	28.0 (1.10)	20.0 (0.787)

Cylinder Head - End View
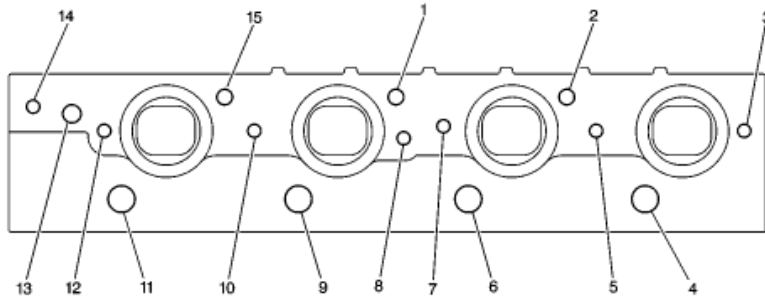
Cylinder Head

				Cylinder Head – Exhaust Manifold Deck View				
Hole	Thread Size	Insert	Drill	Counterbore Tool	Tap	Driver	Drill Depth – Maximum mm (in)	Tap Depth – Maximum mm (in)
1–2	M10 x 1.5	J 42385-215	J 42385-211	J 42385-212	J 42385-213	J 42385-214	28.0 (1.10)	20.0 (0.787)
3	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	21.0 (0.826)	16.0 (0.629)
4	M14 x 1.25	—	—	—	—	—	—	—
5	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	21.0 (0.826)	16.0 (0.629)
6	M14 x 1.25	—	—	—	—	—	—	—
7–8	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	21.0 (0.826)	16.0 (0.629)
9	M14 x 1.25	—	—	—	—	—	—	—
10	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	21.0 (0.826)	16.0 (0.629)
11	M14 x 1.25	—	—	—	—	—	—	—
12	M8 x 1.25	J 42385-210	J 42385-206	J 42385-207	J 42385-208	J 42385-209	21.0 (0.826)	16.0 (0.629)
13	M12 x 1.5	—	—	—	—	—	—	—
14–15	M10 x 1.5	J 42385-215	J 42385-211	J 42385-212	J 42385-213	J 42385-214	28.0 (1.10)	20.0 (0.787)

Cylinder Head - Exhaust Manifold Deck View
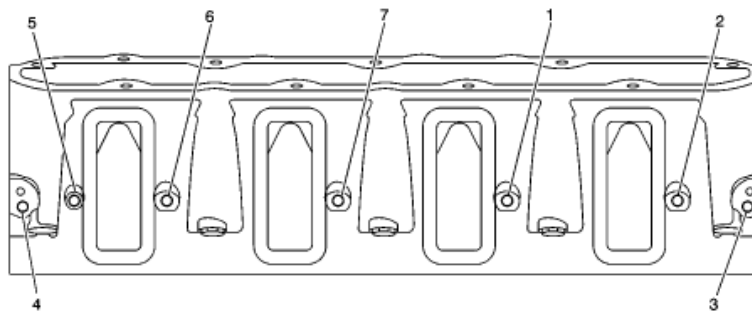
Cylinder Head

Cylinder Head – Intake Manifold Deck View								
Hole	Thread Size	Insert	Drill	Counterbore Tool	Tap	Driver	Drill Depth – Maximum mm (in)	Tap Depth – Maximum mm (in)
1–2	M6 x 1.0	J 42385-205	J 42385-201	J 42385-202	J 42385-203	J 42385-204	Thru	Thru
3–4	M6 x 1.0	J 42385-205	J 42385-201	J 42385-202	J 42385-203	J 42385-204	22.5 (0.885)	15.0 (0.688)
5–7	M6 x 1.0	J 42385-205	J 42385-201	J 42385-202	J 42385-203	J 42385-204	Thru	Thru

Cylinder Head - Intake Manifold Deck View