

Divya Engineering Works (P) Ltd, Mysore	CNC Machining Tool List	Doc. Ref: DEW/PRD/D/03	
		REV NO: 00	
		DATE: 01-06-2003	
Part Name: Housing FDAC		Drg No and Rev No: 1380444-1	
Customer Name:		Date: 16-03-2013	Page 1/5

**Operation Description OP10: Drilling and Pocket Roughing Program No: O1044**

SL No	Tool Part No and Description	Tool Holder	Tool Overhang	Work Description
1	GUHRING MAKE DIA 8.1 CARBIDE DRILL (05514-8.100)	CTH20-90	55	M8 Free Hole drilling
2	Sandvik Make inserted drill Dia 15 (880-D1500L20-04)	ART32-MST	50	Counter bore for M8
3	SGS Make Carbide Endmill Dia 6 (SGS-6.0-EM)	CTH20-90	25	Profile test
4	Iscar Make Dia 80 Face Mill (F45NM-D080-6-27-R08)	Arbour	50	Facing
5	Seco Make Dia 32 Inserted End mill (R217.69-3232.0-12-3AN)	ART32-MST	115	Pocket Roughing

**Operation Description OP20: Rib Side 1st Finishing Program No: O2044**

SL No	Tool Part No and Description	Tool Holder	Tool Overhang	Work Description
1	Iscar Make Dia 6x90 DEG CSK (ECF D-2/45-4C06)	CTH10-90	40	Deburring
2	Tiger Make Carbide Long Shank Ballnose Dia 10 With (SFULBT1012)	CTH20-90	68	Rib Top 3D
3	GW Make Dia 12 EM with 60 FL (GWI-02904)	CTH20-90	90	Wall finishing
4	SGS Make Dia 12 Long Scarb (44564)	CTH20-90	90	Corner roughing
5	Mitsubishi Make Carbide End Mill Dia 12 (SEG2120SA)	CTH20-90	45	Wall Finishing
6	Carb Make Carbide Centerdrill Dia 6 (CARB-6.0-CD)	CTH20-90	40	Centring
7	Tiger Make Carbide Ballnose Dia 6 (SB0602T)	CTH10-90	35	CSK Finish

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8	SGS Make Carbide Endmill Dia 4 (40329)	CTH10-90	25	Slot Rough and finish		
9	YG Make Carbide Dream Drill Dia 11.1 (DH423111)	CTH20-90	50	Thread Pre Drill		
10	Guhring Make Carbide Drill Dia 3.1 (GUHRING-3.1X34FL-DRL)	ER20-ISCAR	44	Drill		
11	Iscar Make 50 Dia Tang mill (F90LN D050-05-22-R-N11)	Arbour	50	Rough Facing		
12	Seco Make Dia 32 Inserted End mill (R217.69-3232.0-12-3AN)	ART32-MST	115	Roughing		
13	Iscar Make 16mm Carbide Shank (MM S-A-L150-C16-T10-C)	20MM-ALBRETCH	105	Wall Roughing		
14	Sandvik Make Dia 100 Face Mill (R245-100Q32-12M)	Arbour	100	Finish Facing		
15	Iscar Make Dia 16 TEM Short (HM90 E90A-D16-2-C16)	CTH20-90	42	Finish Facing		
16	Iscar Make dia 16 Long TEM (HM90 E90A-D16-2-C16-B)	CTH20-90	100	Finish Facing		
17	Vardex Make Dia 3.7, 32UN, RH Thread Milling tool (MTSH06037C15 32UN)	16MM-SYIC-PENCIL	32	Thread Milling for 15/32-32UNS 2B Thread		
18	Custom make Dia 9.9xR0.8 Long EM (RS-EM9.9xR0.8)	CTH20-90	90	Root Radius Finishing		
Operation Description OP30: Pocket finishing Program No: O3044						
SL No	Tool Part No and Description	Tool Holder	Tool Overhang	Work Description		
1	YG Make Carbide Dream Drill Dia 5.1 (DH423051)	CTH10-90	32	Thread Pre Drill		
2	SGS MAKE DIA 4 SHEAR CARB (45281)	CTH10-90	20	Dia 9 hole finishing		
3	GW MAKE DIA 6X90 DEG CHAMFERING TOOL (GWI 02911)	CTH20-90	70	Edge chamfering		

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4	Iscar Make Dia 6x90 DEG CSK (ECF D-2/45-4C06)	CTH10-90	40	Edge Chamfering		
5	Tiger Make Carbide Long Shank Ballnose Dia 10 With (SFULBT1012)	CTH20-90	70	Rib edge 3D		
6	Tru Cut Make Carbide Center Drill Dia 6 With 120 D (402-0600-SPL-120DEG)	CTH10-90	55	Centring		
7	Axis Make Carbide drill Dia 3.85 (71832038502200)	16MM-SYIC-PENCIL	90	Thread Pre drill		
8	GW Make Dia 12 EM with 60 FL (GWI-02904)	20MM-ALBRETCH	85	Wall Finishing		
9	SGS Make Dia 12 Long Scarb (44564)	CTH20-90	85	Corner Roughing		
10	SGS Make Dia 8 Long S-Carb (44562)	CTH20-90	55	Piller finishing and Rib Facing		
11	GW Make Carbide Endmill Dia 8 With 0.8 (GW-8.0X0.8-EM)	CTH20-90	55	Root Radius Finishing		
12	BSR Make Carbide Endmill Dia 10 With 0.8 CR (BSR-10.0X0.8CR-EM)	CTH10-90	77	Root Radius Finishing		
13	Guhring Make Carbide Drill Dia 3.1 (GUHRING-3.1X34FL-DRL)	ER20-ISCAR	48	Thread Pre Drill		
14	Iscar Make 16mm Carbide Shank (MM S-A-L150-C16-T10-C)	20MM-ALBRETCH	100	Wall Roughing		
15	Iscar Make dia 16 Long TEM (HM90 E90A-D16-2-C16-B)	CTH20-90	85	Floor Finishing		
16	Sandvik Make Dia 30 R390 TEM (R390-030A25L-11L)	ART32-MST	95	Pocket roughing		
17	Sandvik Make Dia 25 R790 TEM (R790-025A25S2-16L)	ART32-MST	60	Top Finish Facing		
18	GW Make Dia 8 long EM Yellow Coated (GW-D8-4FL)	CTH20-90	65	Piller finishing		
19	Addison make Dia 24.5 HSS Drill (Addison-D24.5)	Arbour	100	Pillar removal		

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**Operation Description OP40: Rib Side 2nd Finishing Program No: O4044**

SL No	Tool Part No and Description	Tool Holder	Tool Overhang	Work Description
1	ISCAR MAKE DIA 6X0.8 EM RELIEVED (EC060A16-4C06R0.8)	CTH20-90	30	Rib Root Radius Finishing
2	GW MAKE DIA 6X90 DEG CHAMFERING TOOL (GWI 02911)	CTH20-90	90	Edge Chamfering
3	Iscar Make Dia 6x90 DEG CSK (ECF D-2/45-4C06)	CTH10-90	40	Edge Chamfering
4	Widia Hanita Make Carbide End Mill Dia 12 (510312005)	CTH20-90	45	Bore finishing
5	Tiger Make Carbide Long Shank Ballnose Dia 10 With (SFULBT1012)	CTH20-90	35	Edge 3D Finishing
6	Iskar Make Dia 8 Roug. EM (ECR-B3 08-12/27C08R02A63)	CTH20-90	30	Rib Roughing
7	GW Make Dia 12 EM with 60 FL (GWI-02904)	20MM-ALBRETCH	95	Wall Finishing
8	SGS Make Dia 12 Long Scarb (44564)	CTH20-90	93	Corner Rough and Facing
9	SGS Make Dia 6 Shear Carb (45287)	CTH20-90	30	Floor Finishing
10	SGS Make Dia 6 EM with 25 FL (43105)	CTH20-90	30	Rib Wall Finishing
11	BSR Make Carbide Endmill Dia 10 With 0.8 CR (BSR-10.0X0.8CR-EM)	CTH20-90	95	Root Radius Finishing
12	Seco Make Dia 32 Inserted End mill (R217.69-3232.0-12-3AN)	ART32-MST	115	Wall Roughing

**Operation Description OP50: Side with 2 Pillers Program No: O5044**

SL No	Tool Part No and Description	Tool Holder	Tool Overhang	Work Description
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1	YG1 MAKE DIA 4.4 CARBIDE DREAM DRILL (DH424044)	CTH10-55-HSKA50	40	Thread Pre Drilling		
2	YG Make Carbide Dream Drill Dia 5.1 (DH423051)	CTH10-55-HSKA50	35	Thread Pre Drill		
3	Iscar Make Dia 6x90 DEG CSK (ECF D-2/45-4C06)	ER16-HSKA50-Haimer	30	Edge Deburring		
4	Tru Cut Make Carbide Center Drill Dia 6 With 120 D (402-0600-SPL-120DEG)	CTH10-75-HSKA50	60	Centring		
5	SGS Make Dia 10 Long S-Carb EM (44563)	CTH20-80-HSKA50	65	Roughing anf Finish Facing		
6	GW Make Carbide Endmill Dia 8 With 0.8 (GW-8.0X0.8-EM)	CTH20-80-HSKA50	74	Root Radius Finishing		
7	SGS Make Dia 10 4FL EM with 38FL (43125)	CTH20-80-HSKA50	65	Wall finishing		
Operation Description Op60: Side with Pockets Program No: O6044						
SL No	Tool Part No and Description	Tool Holder	Tool Overhang	Work Description		
1	YG1 MAKE DIA 4.4 CARBIDE DREAM DRILL (DH424044)	CTH10-75-HSKA50	40	Drilling		
2	Tru Cut Make Carbide Center Drill Dia 6 With 120 D (402-0600-SPL-120DEG)	CTH10-75-HSKA50	60	Centring		
3	SGS Make Dia 10 Long S-Carb EM (44563)	CTH20-80-HSKA50	65	Roughing and Finish Facing		
4	GW Make Carbide Endmill Dia 8 With 0.8 (GW-8.0X0.8-EM)	CTH20-80-HSKA50	74	Root Radius Finishing		
5	Guhring Make Carbide Drill Dia 3.1 (GUHRING-3.1X34FL-DRL)	ER16-HSKA50-Haimer	30	Drilling		
6	SGS Make Dia 10 4FL EM with 38FL (43125)	CTH20-80-HSKA50	65	Wall Finishing		

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