ALLIED MAXCUT
ENGINEERING COMPANY LIMITED

Special Product Catalogue

T-A® Drill Insert System

T-A® Special Products

Introduction

Allied Maxcut - where special is the norm

Tell us your application and we'll make the tool - **guaranteed**.

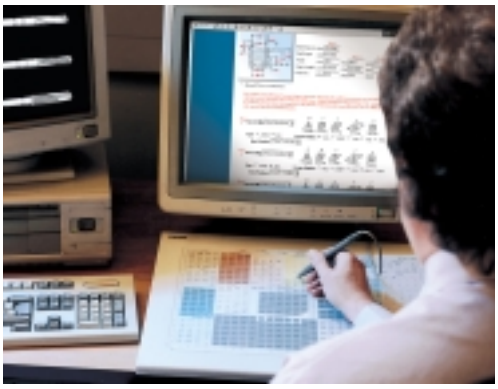
With more than 20 years' experience in precision drilling systems, Allied Maxcut has a well-established and highly-developed special tools programme that has solved thousands of drilling problems worldwide. Indeed, production of special tools is a key part of our operation and one that sets us apart from other suppliers. For us, special is normal.

You will find our flexible hands-on approach easy to work with. All you need to do is tell us your application, send the drawings and machine tool particulars and we will design and manufacture the correct tool at our own factory ready for delivery in five to six weeks from receipt of order. It's that simple.

Our team of specialist designers and engineers is dedicated to producing tools specifically-tailored to individual jobs.
Based on our renowned T-A® Drilling System, we can supply tools to drill holes from 9.5mm to 114mm diameter.
The majority of these are specified to complete multiple operations - such as spotting, drilling and chamfering - in one pass, thereby producing significant time and cost savings.

In designing the tool, we take account of all your special requirements no matter how difficult the application - whether you have an unstable machine tool or perhaps two or three cast faces to deal with.

The following pages are a guide to just some of our Special Tool applications. If you don't see what you are looking for, please contact us and we will be happy to discuss your individual application.



T-A® Special Products

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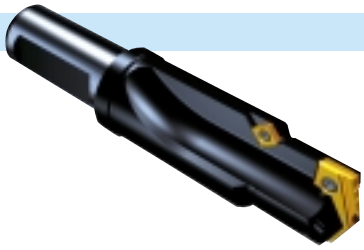
T-A® Special Products - Product Overview

Indexable Carbide Insert Holders (combination tool)



- Combines multiple operations to eliminate unnecessary tool changes
- Improves alignment between bores
- Frees-up machine tool changer space
- Eliminates expensive second operation tools
- ISO inserts pockets

Chrome Helix Holders

- Dedicated diameter drills
- Excellent twist drill replacement
- Stable cutting action - even through interrupted cuts
- Enhanced drill straightness due to bearing surface's guiding action
- For holes over 3 x diameter deep through guide bushes

Chrome Bushing Tool

- A replacement for HSS twist drills in shallow hole applications less than 3 x diameter deep where a guide bush is used
- Flexible tool
- Eliminates regrinding and length re-setting
- Reduced down time

Special length holders

- Excellent gun drill replacement tool where faster metal removal is the main criteria
- Guided for maximum stability / straightness
- Unguided for maximum flexibility
- Eliminates the need for regrinding and length re-setting
- Available in large length to diameter ratios (typically 40:1)

Alloy wheel drills

- One-hit machining of alloy wheel bolt and valve holes
- High cutting parameter possible (10,000 rpm, 3-4m penetration rates)
- Lower cost per hole when compared to solid tools
- Eliminates the need for regrinding and length re-setting
- Reduces the number of tools in stock

Special inserts

- Eliminates the need for regrinding and length re-setting
- Improved finishes over form tools
- Improved tool life
- Increased cutting parameters
- Cost effective form drill replacement

T-A® Special Products - Application Example

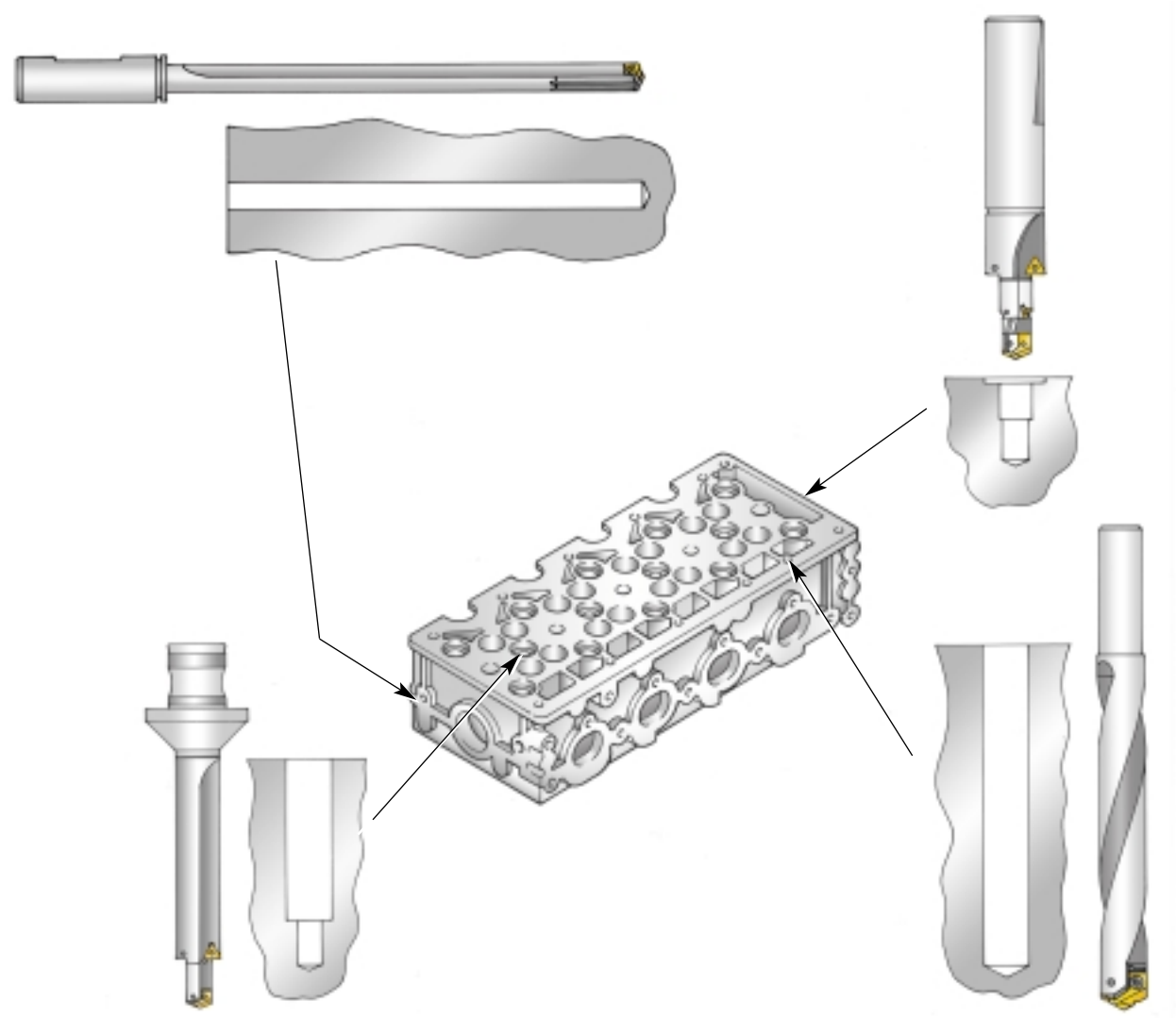
Automotive Cylinder Head

Application - Cylinder Head Water Jacket Holes

	Existing Tool	AMEC
Tool Type	Solid Carbide	Special Length - Chromed Pilot
Cutting Data - Speed	50 m/min	50 m/min
- Feed	160 mm/min	160 mm/min
Tool Life	300 Metres	1600 Metres
Hole Depth	400 mm in 4 stages	400 mm in 4 stages
Hole Diameter	15 mm	15 mm
Material	GG 25	GG 25
Coolant type	Air Mist	Air Mist
Customer Benefits	**• Regrinding eliminated** **• Reduced inventory** **• Reduced handling** **• Reduced cost per hole**	

Application - Cylinder Head Water Jacket Outlet Holes

	Existing Tool	AMEC
Tool Type	HSS drill + milling tool	2 step Combination tool
Cutting Data - Speed	2 operations	140 m/min
- Feed	n/a	480 mm/min
Tool Life	n/a	5000 holes
Hole Depth	n/a	45 mm
Hole Diameter	n/a	14+17+29
Material	LM25	LM25
Coolant type	Water soluble	Water soluble
Customer Benefits	**• Regrinding eliminated** **• 1 Operation eliminated** **• Part quality improved** **• Reduced tool inventory** **• Reduced cost per part**	



Application - Spark Plug Hole

	Existing Tool	AMEC
Tool Type	2 tools-Pre-drill/finish	1 Step combination tool
Cutting Data - Speed	120 m/min	120 m/min
- Feed	330 mm/min	510 mm/min
Tool Life	1500 holes	7000 holes
Hole Depth	100 mm	100 mm
Hole Diameter	12+23 mm	12+23 mm
Material	LM 25	LM 25
Coolant type	Water soluble	Water soluble
Customer Benefits	**• Regrinding eliminated** **• Improved part quality/consistancy/ tool reliability** **• Reduced cycle time** **• Reduced inventory** **• Reduced part cost**	

Application - Bolt Clearance Holes

	Existing Tool	AMEC
Tool Type	Exchangeable Insert	Special length holder
Cutting Data - Speed	40 m/min	40 m/min
- Feed	230 mm/min	230 mm/min
Tool Life	280 metres	1500 metres
Hole Depth	70 mm	70 mm
Hole Diameter	14 mm	14 mm
Material	GG25	GG25
Coolant type	Dry-Air only	Dry-Air only
Customer Benefits	**• Regrinding eliminated** **• Reduced cost per hole** **• Improved reliability** **• Reduced tool change/down time**	

T-A® Special Products - Application Example

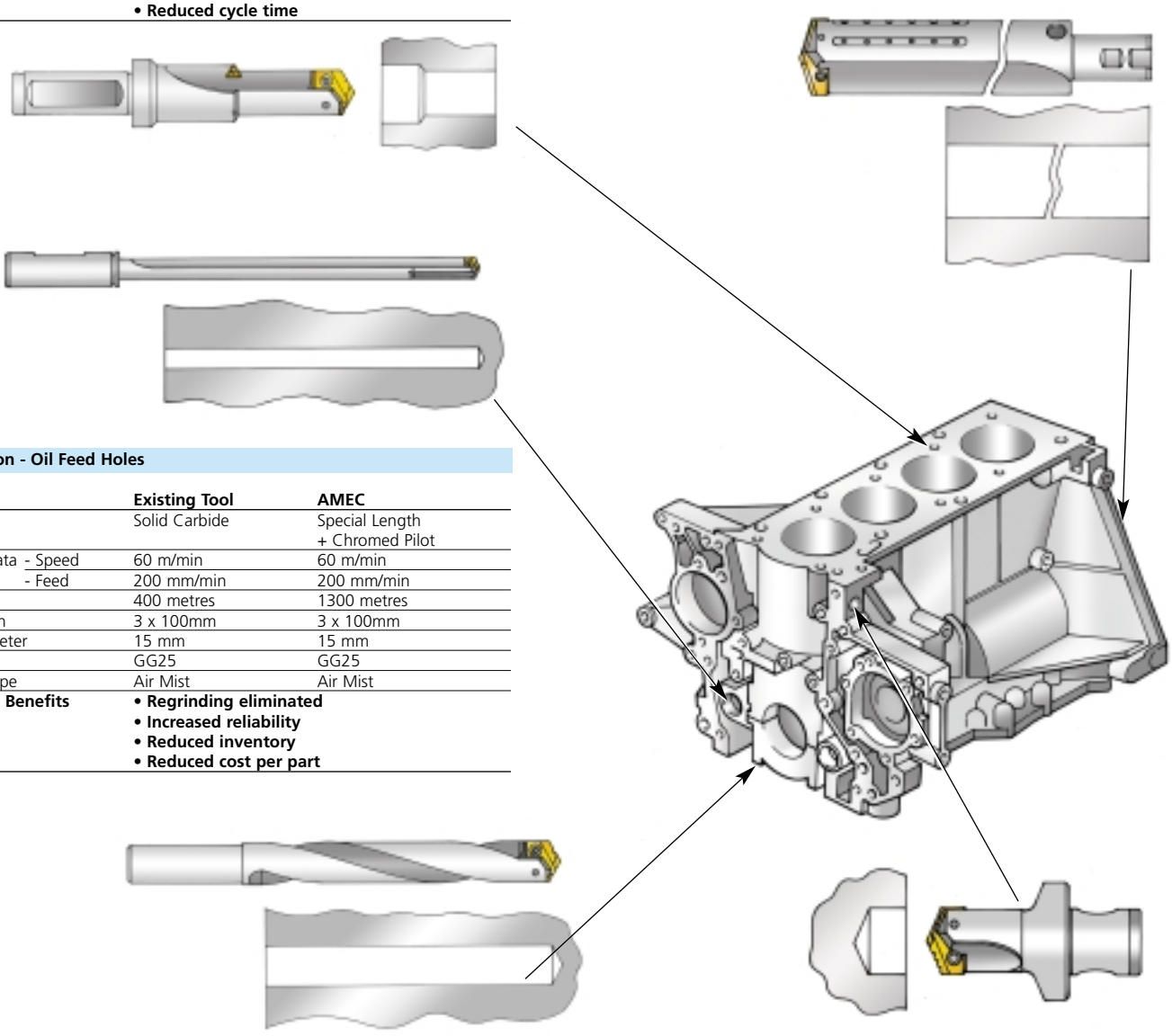
Cylinder Block

Application - Cylinder Block/Head Bolting Holes

	Existing Tool	AMEC
Tool Type	Solid Carbide	1 Step Combination Tool
Cutting Data - Speed	90 m/min	100 m/min
- Feed	610 mm/min	750 mm/min
Tool Life	80 metres	80 metres
Hole Depth	120 mm	120 mm
Hole Diameter	13.5 - 17.5 mm	13.5 - 17.5 mm
Material	GG25	GG25
Coolant type	Water Soluble	Water Soluble
Customer Benefits	**• Regrinding eliminated** **• Reduced inventory** **• Increased reliability** **• Reduced cost per part** **• Reduced cycle time**	

Application - Water Galley Holes

	AMEC
Tool Type	Special Length Holder
Cutting Data - Speed	50 m/min
- Feed	100 mm/min
Tool Life	50 metres
Hole Depth	1600 mm
Hole Diameter	80 mm
Material	GG25
Coolant type	Water Soluble
Customer Benefits	**• Regrinding eliminated** **• No Length re-setting** **• Reliable process**



Application - Oil Feed Holes

	Existing Tool	AMEC
Tool Type	Solid Carbide	Special Length + Chromed Pilot
Cutting Data - Speed	60 m/min	60 m/min
- Feed	200 mm/min	200 mm/min
Tool Life	400 metres	1300 metres
Hole Depth	3 x 100mm	3 x 100mm
Hole Diameter	15 mm	15 mm
Material	GG25	GG25
Coolant type	Air Mist	Air Mist
Customer Benefits	**• Regrinding eliminated** **• Increased reliability** **• Reduced inventory** **• Reduced cost per part**	

Application - Crankshaft Bearing Cap Bolting Holes

	Existing Tool	AMEC
Tool Type	Brazed Carbide	Special Length Holder
Cutting Data - Speed	80 m/min	80 m/min
- Feed	320 mm/min	320 mm/min
Tool Life	150 metres	200 metres
Hole Depth	60 mm	60 mm
Hole Diameter	15 mm	15 mm
Material	GG25	GG25
Coolant type	Water Soluble	Water Soluble
Customer Benefits	**• Regrinding eliminated** **• Reduced inventory** **• Reduced cost per hole**	

Application - Water Jacker Outlet Hole

	Existing Tool	AMEC
Tool Type	Exchangeable Insert	Special Length Holder
Cutting Data -Speed	100 m/min	100 m/min
- Feed	230 mm/min	300 mm/min
Tool Life	100 metres	200 metres
Hole Depth	10 mm	10 mm
Hole Diameter	29 mm	29 mm
Material	GG25	GG25
Coolant type	Water Soluble	Water Soluble
Customer Benefits	**• Regrinding eliminated** **• Increased reliability** **• Reduced down time** **• Reduced cost per hole**	

T-A® Special Products - Application Example

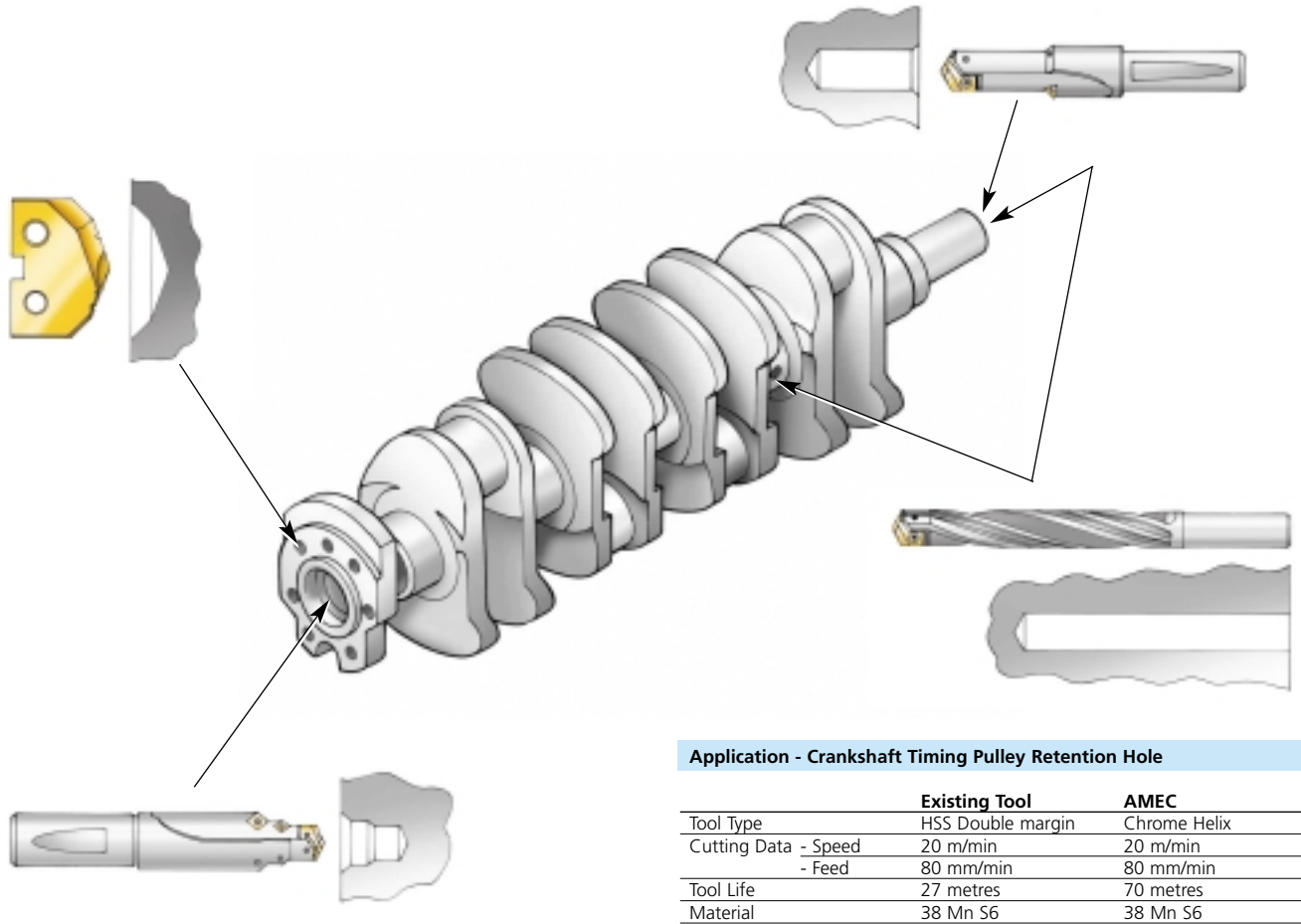
Crankshaft

Application - Crankshaft Flywheel Bolting Holes

	Existing Tool	AMEC
Tool Type	Solid Carbide form tool	Special form HSS spot insert + holder
Cutting Data - Speed	30 m/min	30 m/min
- Feed	100 mm/min	100 mm/min
Tool Life	6 metres	120 metres
Material	38 Mn S6	38 Mn S6
Hole Depth	7 mm	7 mm
Hole Diameter	20 mm	20 mm
Customer Benefits	**• Regrinding eliminated** **• Reduced cost per hole** **• Improved chip control** **- less machine down time** **• Less monitoring due to increased reliability**	

Application - Crankshaft Timing Pulley Hole

	Existing Tool	AMEC
Tool Type	HSS form tool	Combination Tool - 1 step
Cutting Data - Speed	22 m/min	22 m/min
- Feed	70 mm/min	70 mm/min
Tool Life	11 metres	50 metres
Material	38 Mn S6	38 Mn S6
Hole Depth	25 mm	25 mm
Hole Diameter	16 mm plus chamfer	16 mm plus chamfer
Customer Benefits	**• Regrinding eliminated** **• Reduced cost per hole** **• Improved chip control** **- less machine down time** **• Less monitoring due to increased reliability**	



Application - Clutch Alignment Hole

	Existing Tool	AMEC
Tool Type	HSS Form Tool	Combination Tool - 2 step
Cutting Data - Speed	22 m/min	22 m/min
- Feed	60 mm/min	60 mm/min
Tool Life	10 metres	70 metres
Material	38 Mn S6	38 Mn S6
Hole Depth	50mm total	50mm total
Hole Diameter	17 + 23 + chamfer	17 + 23 + chamfer
Customer Benefits	**• Regrinding eliminated** **• Reduced cost per hole** **• Improved chip control** **• Less monitoring due to increased reliability**	

Application - Crankshaft Timing Pulley Retention Hole

	Existing Tool	AMEC
Tool Type	HSS Double margin	Chrome Helix
Cutting Data - Speed	20 m/min	20 m/min
- Feed	80 mm/min	80 mm/min
Tool Life	27 metres	70 metres
Material	38 Mn S6	38 Mn S6
Hole Depth	55 mm	55 mm
Hole Diameter	13 mm	13 mm
Customer Benefits	**• Regrinding eliminated** **• Reduced cost per hole** **• Improved chip control** **- less machine down time** **• Improved hole straightness**	

Application - Crankshaft balancing hole

	Existing Tool	AMEC
Tool Type	HSS Co twist+TiN	Chrome Helix
Cutting Data - Speed	28 m/min	28 m/min
- Feed	110 mm/min	150 mm/min
Tool Life	1000 holes	10000 holes
Material	GGG60	GGG60
Hole Depth	25/30 mm	25/30 mm
Hole Diameter	20 mm	20 mm
Customer Benefits	**• Regrinding eliminated** **• Improved tool life** **• Improved hole quality-Improved balancing** **• Reduced cost per hole**	

T-A® Special Products - Application Example

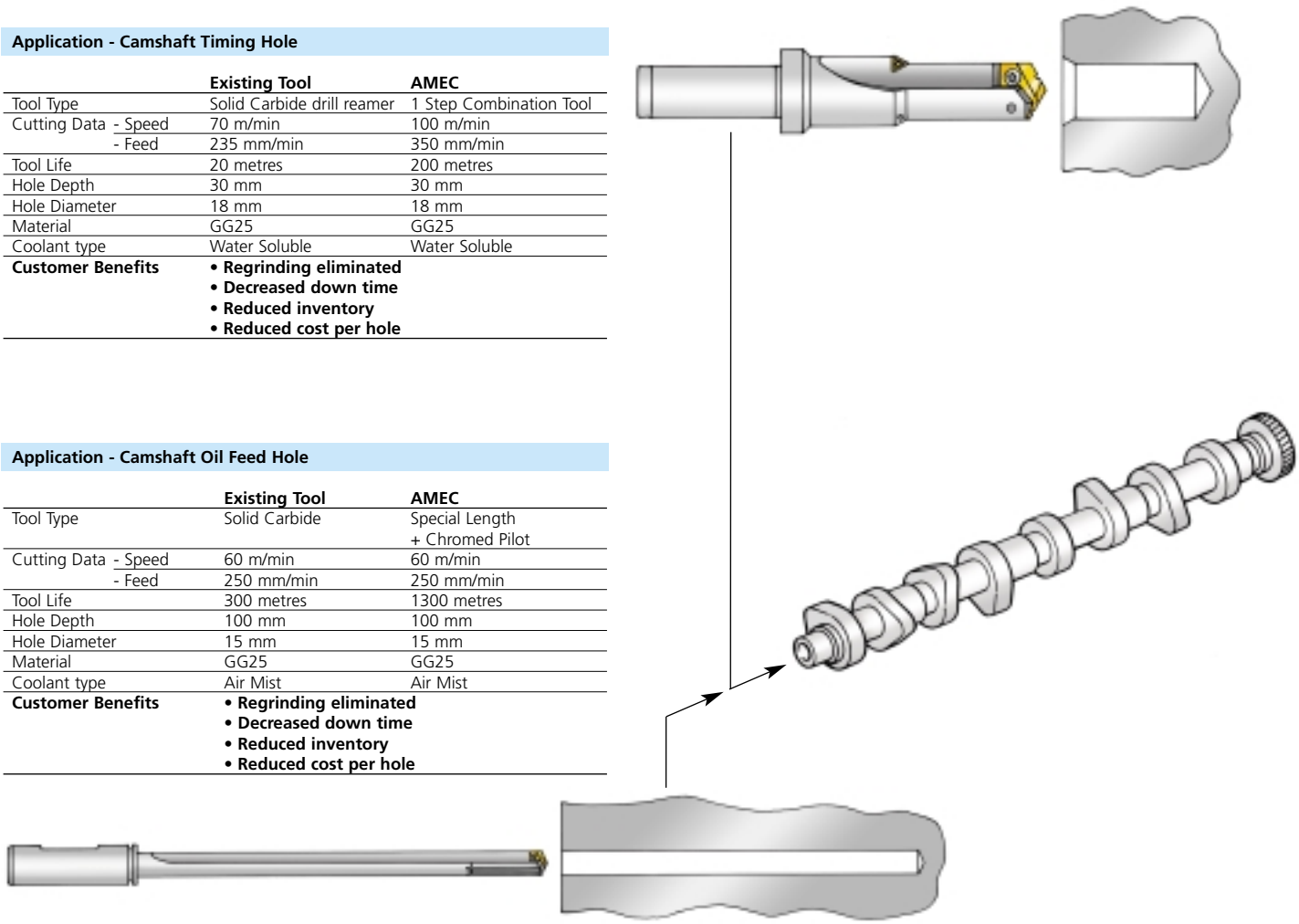
Camshaft

Application - Camshaft Timing Hole

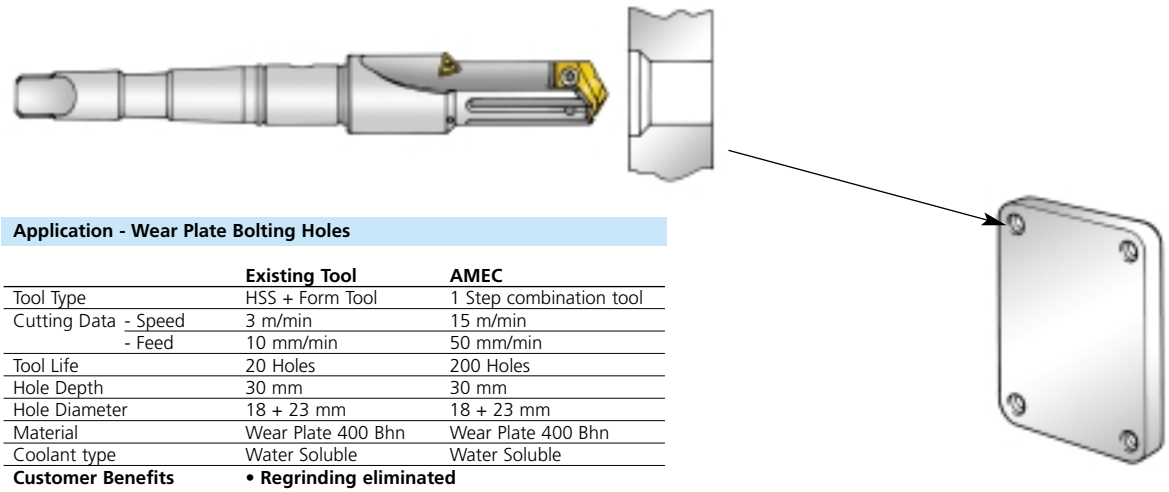
		Existing Tool	AMEC
Tool Type		Solid Carbide drill reamer	1 Step Combination Tool
Cutting Data	- Speed	70 m/min	100 m/min
	- Feed	235 mm/min	350 mm/min
Tool Life		20 metres	200 metres
Hole Depth		30 mm	30 mm
Hole Diameter		18 mm	18 mm
Material		GG25	GG25
Coolant type		Water Soluble	Water Soluble
Customer Benefits		**• Regrinding eliminated** **• Decreased down time** **• Reduced inventory** **• Reduced cost per hole**	

Application - Camshaft Oil Feed Hole

		Existing Tool	AMEC
Tool Type		Solid Carbide	Special Length + Chromed Pilot
Cutting Data	- Speed	60 m/min	60 m/min
	- Feed	250 mm/min	250 mm/min
Tool Life		300 metres	1300 metres
Hole Depth		100 mm	100 mm
Hole Diameter		15 mm	15 mm
Material		GG25	GG25
Coolant type		Air Mist	Air Mist
Customer Benefits		**• Regrinding eliminated** **• Decreased down time** **• Reduced inventory** **• Reduced cost per hole**	



Wear Plate



Application - Wear Plate Bolting Holes

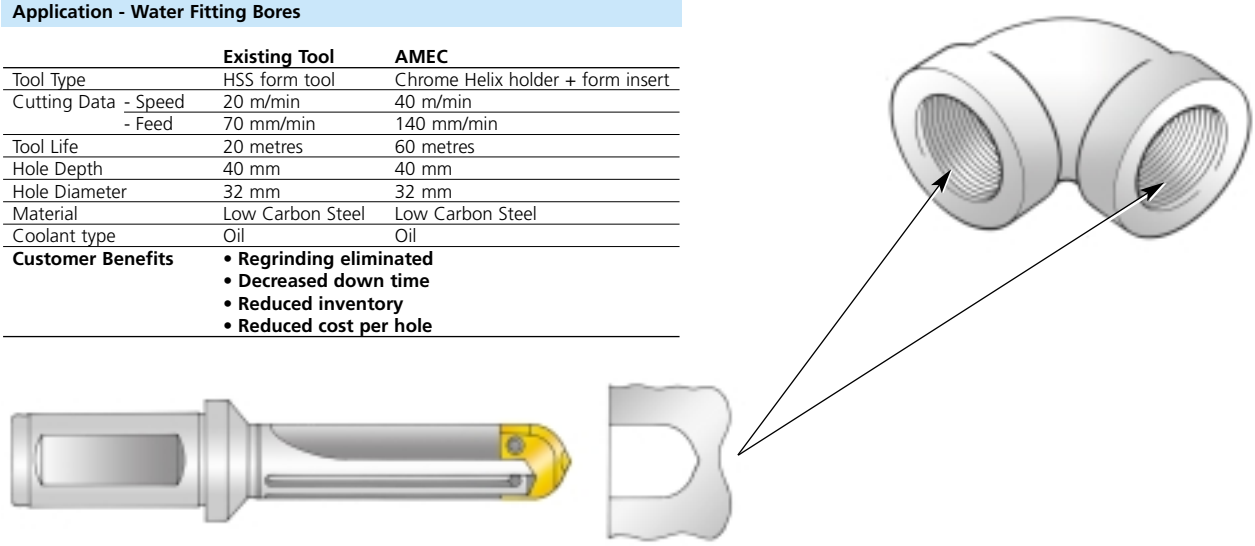
		Existing Tool	AMEC
Tool Type		HSS + Form Tool	1 Step combination tool
Cutting Data	- Speed	3 m/min	15 m/min
	- Feed	10 mm/min	50 mm/min
Tool Life		20 Holes	200 Holes
Hole Depth		30 mm	30 mm
Hole Diameter		18 + 23 mm	18 + 23 mm
Material		Wear Plate 400 Bhn	Wear Plate 400 Bhn
Coolant type		Water Soluble	Water Soluble
Customer Benefits		**• Regrinding eliminated** **• Reduced cycle time** **• Improved hole quality** **• Reduced cost per hole**	

T-A® Special Products - Application Example

Water Fitting

Application - Water Fitting Bores

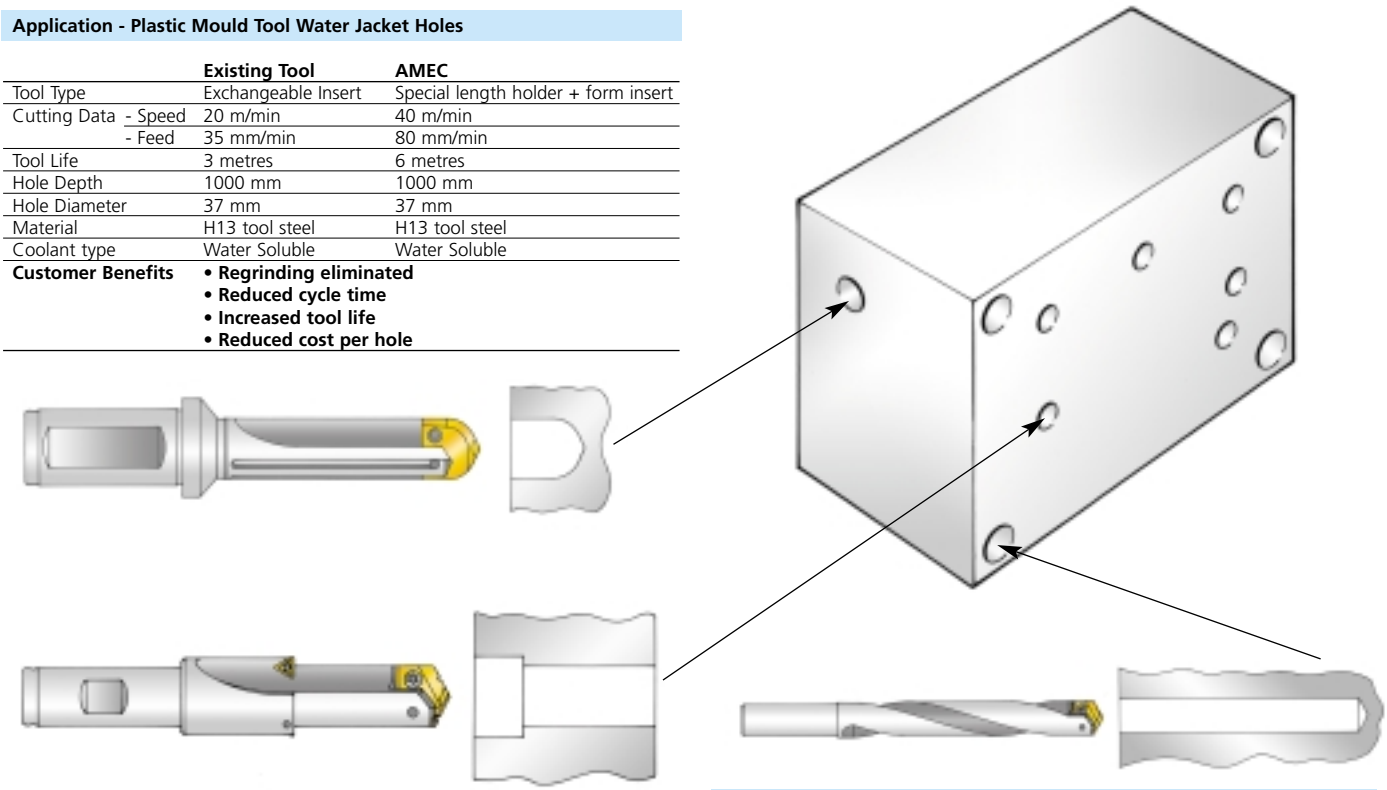
		Existing Tool	AMEC
Tool Type		HSS form tool	Chrome Helix holder + form insert
Cutting Data	- Speed	20 m/min	40 m/min
	- Feed	70 mm/min	140 mm/min
Tool Life		20 metres	60 metres
Hole Depth		40 mm	40 mm
Hole Diameter		32 mm	32 mm
Material		Low Carbon Steel	Low Carbon Steel
Coolant type		Oil	Oil
Customer Benefits		**• Regrinding eliminated • Decreased down time • Reduced inventory • Reduced cost per hole**	



Moulding Tools

Application - Plastic Mould Tool Water Jacket Holes

		Existing Tool	AMEC
Tool Type		Exchangeable Insert	Special length holder + form insert
Cutting Data	- Speed	20 m/min	40 m/min
	- Feed	35 mm/min	80 mm/min
Tool Life		3 metres	6 metres
Hole Depth		1000 mm	1000 mm
Hole Diameter		37 mm	37 mm
Material		H13 tool steel	H13 tool steel
Coolant type		Water Soluble	Water Soluble
Customer Benefits		**• Regrinding eliminated • Reduced cycle time • Increased tool life • Reduced cost per hole**	



Application - Cap Screw Bolting Holes

		Existing Tool	AMEC
Tool Type		2 tools	1 step combination tool
Cutting Data	- Speed	n/a	40 m/min
	- Feed	n/a	145 mm/min
Tool Life		n/a	10 metres
Hole Depth		50 mm	50 mm
Hole Diameter		14 + 20 mm	14 + 20 mm
Material		Tool steel	Tool steel
Coolant type		Water soluble	Water soluble
Customer Benefits		**• Regrinding eliminated • Reduced cycle time • Reduced inventory**	

Application - Guide Pin Holes

		Existing Tool	AMEC
Tool Type		HSS	Special length holder
Cutting Data	- Speed	15 m/min	30 m/min
	- Feed	30 mm/min	60 mm/min
Tool Life		2 metres	5 metres
Hole Depth		800 mm	800 mm
Hole Diameter		78 mm	78 mm
Material		Din 2738(40CrMnNiMo8-6-4)	Din 2738(40CrMnNiMo8-6-4)
Coolant type		Water soluble	Water soluble
Customer Benefits		**• Regrinding eliminated • Reduced cycle time • Increased reliability • Reduced part cost**	

T-A® Special Products - Application Example

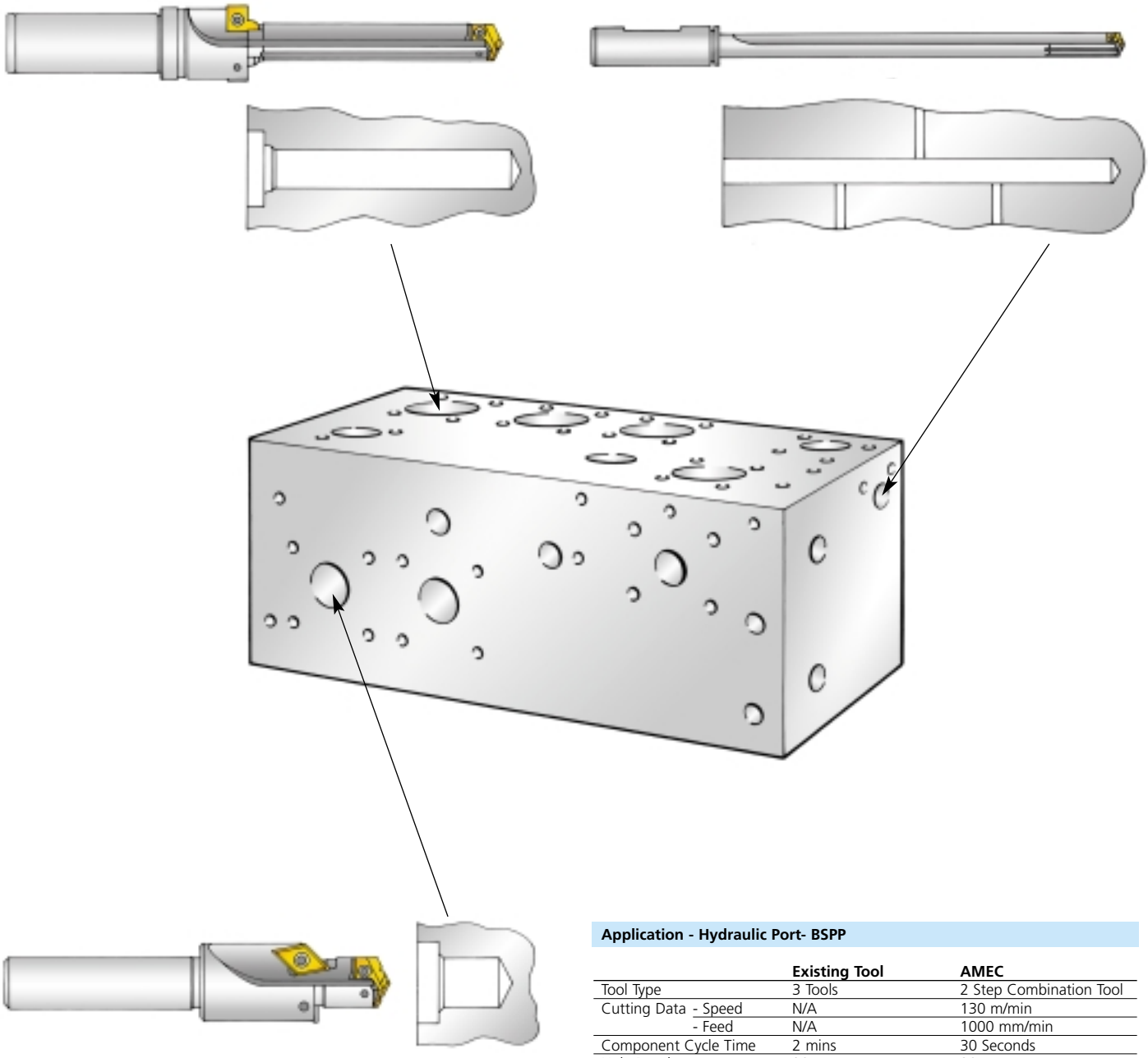
Hydraulic Manifolds

Application - Hydralic Port- UNF 'O' Ring Sealed

	Existing Tool	AMEC
Tool Type	3 Tools	Special AccuPort Tool
Cutting Data - Speed	N/A	100 m/min
- Feed	N/A	350 mm/min
Tool Life	1000 holes	3000 holes
Hole Depth	85 mm	85 mm
Time Per Hole	60 Seconds	18 Seconds
Material	GG25	GG25
Coolant type	Water Soluble	Water Soluble
Customer Benefits	**• Regrinding eliminated** **• Reduced cycle time** **• Reduced cost per part**	

Application - Deep Hole Drilling

	Existing Tool	AMEC
Tool Type	HSS	Special Length Holder
Cutting Data - Speed	40 m/min	60 m/min
- Feed	210 mm/min	320 mm/min
Tool Life	20 metres	40 metres
Hole Depth	250 mm	250 mm
Hole Diameter	15 mm	15 mm
Material	GG25	GG25
Coolant type	Water Soluble	Water Soluble
Customer Benefits	**• Regrinding eliminated** **• Reduced cycle time** **• Improved tool life** **• Reduced part cost**	



Application - Hydraulic Port- BSPP

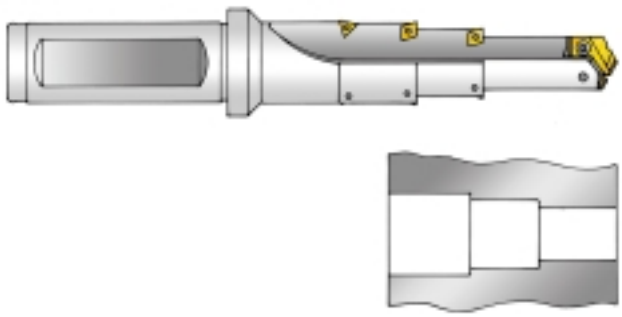
	Existing Tool	AMEC
Tool Type	3 Tools	2 Step Combination Tool
Cutting Data - Speed	N/A	130 m/min
- Feed	N/A	1000 mm/min
Component Cycle Time	2 mins	30 Seconds
Hole Depth	30 mm	30 mm
Hole Diameter	19 mm + Chamfer	19 mm + Chamfer
Material	Aluminium Alloy	Aluminium Alloy
Coolant type	Water Soluble	Water Soluble
Customer Benefits	**• Regrinding eliminated** **• Reduced cycle time** **• Improved part quality** **• Reduced part cost**	

T-A® Special Products - Application Example

Valves

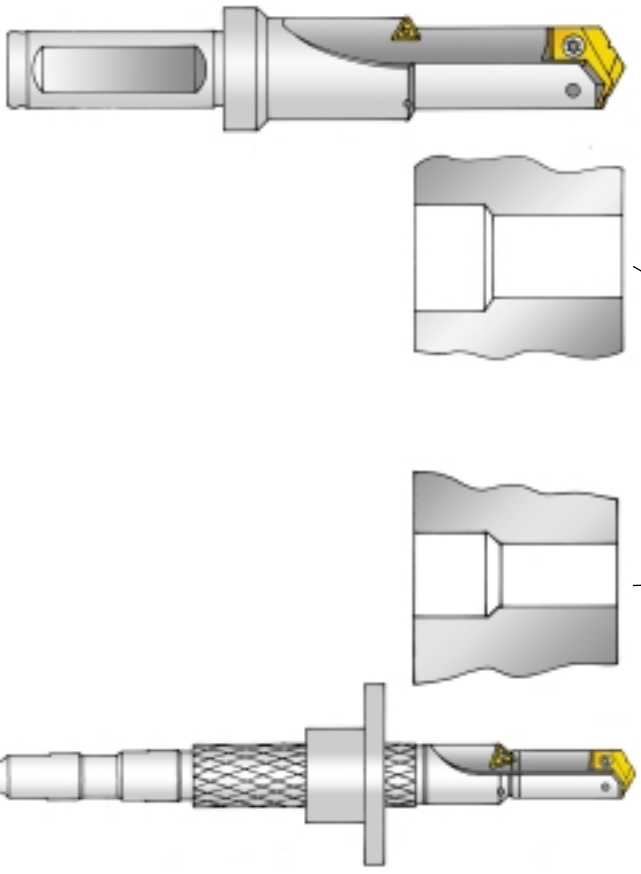
Application - Valve Stem Hole

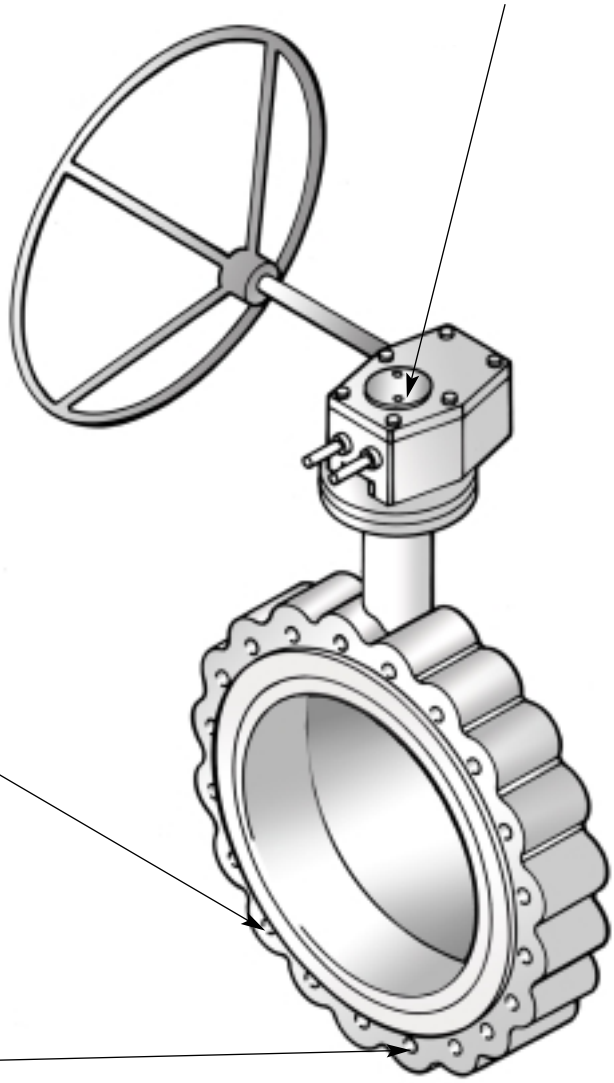
	Existing Tool	AMEC
Tool Type	5 Tools	3 Step Combination Tool
Cutting Data - Speed	10 m/min	18 m/min
- Feed	20 mm/min	50 mm/min
Tool life	Unreliable	2 metres
Hole Depth	150 mm	150 mm
Hole Diameter	30 + 35 + Chamfer	30 + 35 + Chamfer
Material	Super Duplex Stainless Steel	Super Duplex Stainless Steel
Coolant type	Water Soluble	Water Soluble
Customer Benefits	**• Regrinding eliminated** **• Accurate hole alignment** **• Reduced cycle time** **• Reduced inventory**	



Application - Flange Bolting Holes

	Existing Tool	AMEC
Tool Type	2 Tools	1 Step Combination Tool
Cutting Data - Speed	70 m/min	70 m/min
- Feed	265 + 2 nd operation	265 mm/min
Tool Life	40 metres	40 metres
Hole Depth	100 mm	100 mm
Hole Diameter	21 mm	21 mm
Material	Medium Carbon Steel	Medium Carbon Steel
Coolant type	Water Soluble	Water Soluble
Customer Benefits	**• Regrinding eliminated** **• Reduced operations** **• Reduced cycle time** **• Reduced cost per hole**





Application - Flange Bolting Holes

	Existing Tool	AMEC
Tool Type	HSS	1 Step Chrome Bushing Tool
Cutting Data - Speed	25 m/min	40 m/min
- Feed	110 mm/min	150 mm/min
Tool Life	10 metres	20 metres
Hole Depth	85 mm	85 mm
Hole Diameter	21 mm	21 mm
Material	Medium Carbon Steel	Medium Carbon Steel
Coolant type	Water Soluble	Water Soluble
Customer Benefits	**• Regrinding eliminated** **• Reduced down time** **• Reduced cycle time** **• Reduced part cost**

T-A® Special Products - Alloy Wheel Programme

Application Example

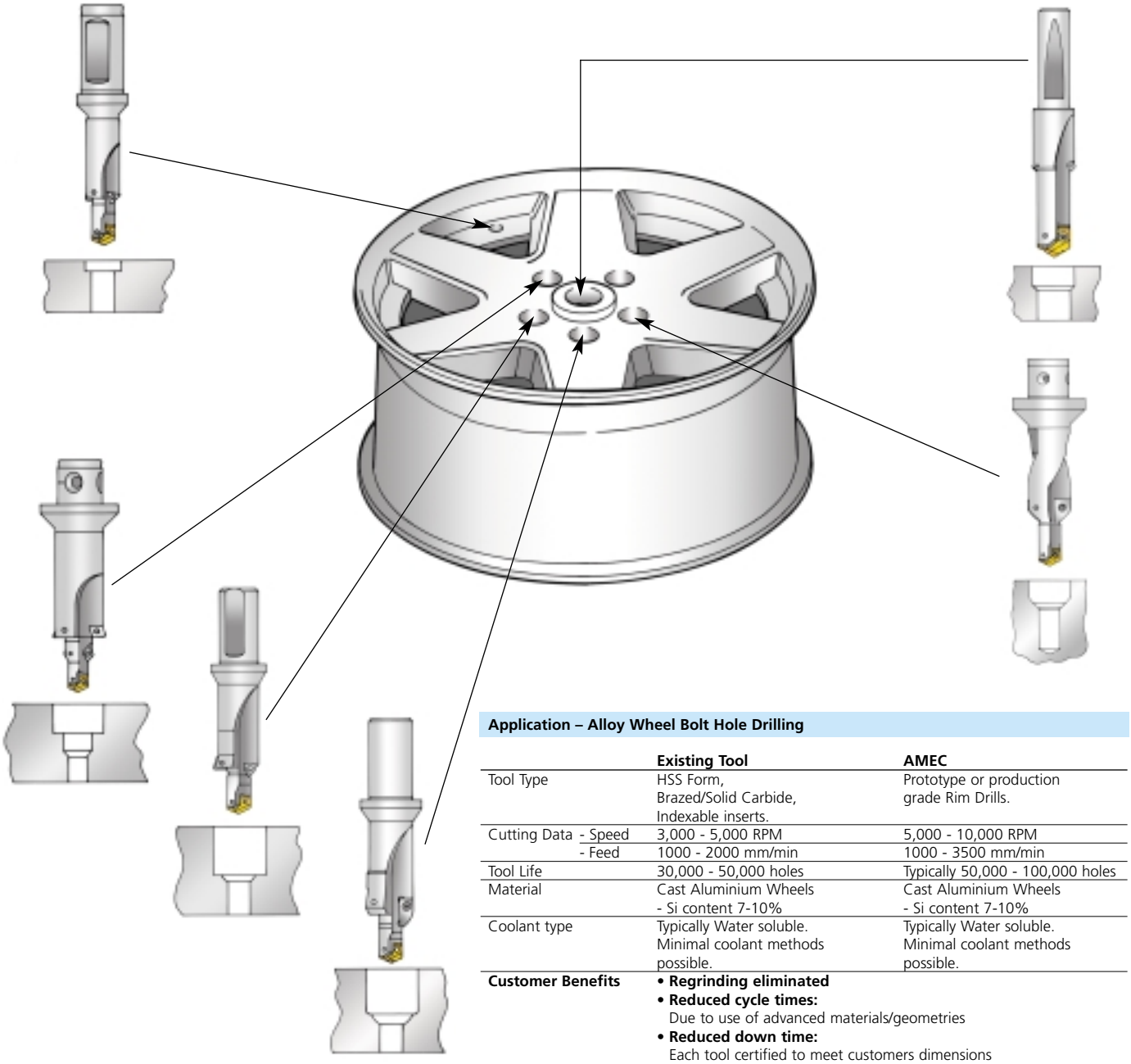
The following 2 pages are an overview of our Alloy Wheel Drilling programme.
For a quotation, complete the design form and send to:
Allied Maxcut Limited - Email: enquiries@alliedmaxcut.com or Fax: +44 (0) 1384 400 105.

Application - Valve Hole Drill

	Existing Tool	AMEC
Tool Type	Solid carbide form drill	Valve hole drill
Cutting Data - Speed	100 m/min	200 m/min
- Feed	300 mm/min	1000 mm/min
Tool Life	10000 holes	50000 holes
Hole Depth	10 mm	10 mm
Hole Diameter	11.5 + 17.5 mm	11.5 + 17.5 mm
Material	LM25	LM25
Coolant type	Water soluble	Water soluble
Customer Benefits	**• Regrinding eliminated** **• Increased reliability** **• Reduced cycle time** **• Reduced cost per hole.**	

Application- De-Sprue

	Existing Tool	AMEC
Tool Type	Indexable insert drill	1 Step combination tool
Cutting Data - Speed	140 m/min	90 m/min
- Feed	150 mm/min	380 mm/min
Tool Life	200 holes	400 holes
Hole Depth	80 mm	80 mm
Hole Diameter	40 mm	40 mm
Material	LM25	LM25
Coolant type	Water soluble	Water soluble
Customer Benefits	**• Regrinding eliminated** **• 55% reduction in cycle time** **• Increased reliability** **• Improved chip control** **• Reduced cost per hole**	



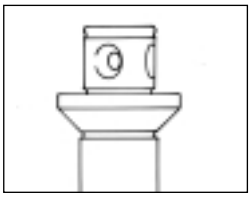
Application – Alloy Wheel Bolt Hole Drilling

	Existing Tool	AMEC
Tool Type	HSS Form, Brazed/Solid Carbide, Indexable inserts.	Prototype or production grade Rim Drills.
Cutting Data - Speed	3,000 - 5,000 RPM	5,000 - 10,000 RPM
- Feed	1000 - 2000 mm/min	1000 - 3500 mm/min
Tool Life	30,000 - 50,000 holes	Typically 50,000 - 100,000 holes
Material	Cast Aluminium Wheels - Si content 7-10%	Cast Aluminium Wheels - Si content 7-10%
Coolant type	Typically Water soluble. Minimal coolant methods possible.	Typically Water soluble. Minimal coolant methods possible.
Customer Benefits	**• Regrinding eliminated** **• Reduced cycle times:** Due to use of advanced materials/geometries **• Reduced down time:** Each tool certified to meet customers dimensions **• Reduced inventory values:** Fewer holders plus a stock of inserts **• Improved reliability:** Through the use of High strength holder materials and Allied's manufacturing experience **• Reduced wheel production costs:** Through the use of AMEC's Rim drills- Guaranteed!	

T-A® Special Products - Alloy Wheel Programme

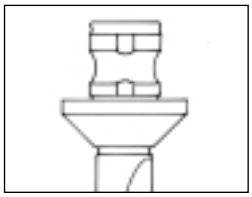
Design Parameters

Shank Styles



Wohlhaupter*

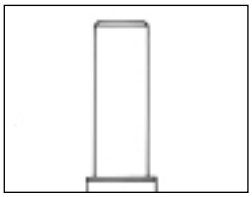
☐ 28/50



ABS compatible*

☐ Size 50

☐ Size 63

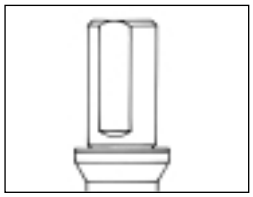


Cylindrical No Flat

☐ 20mm

☐ 25mm

☐ 32mm

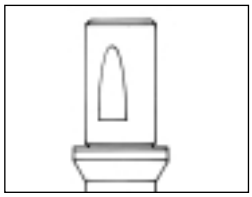


Cylindrical with Flat

☐ 20mm

☐ 25mm

☐ 32mm

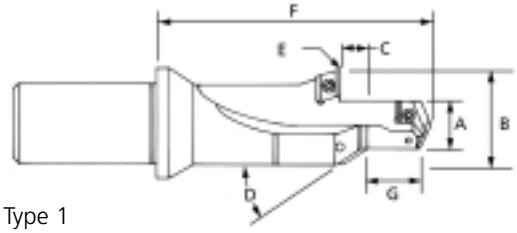


Whistle Notch

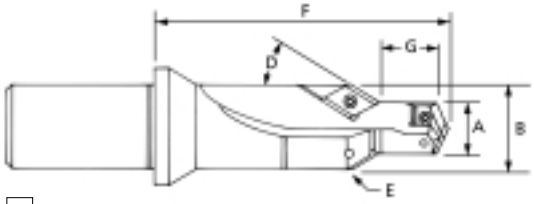
☐ 20mm

☐ 25mm

☐ 32mm



☐ Type 1



☐ Type 2

Customer Part No.	Drill Diameter A	Counterbore Dia B	Chamfer Length C	Chamfer Angle D	Corner Radius E

Pilot Length G	Tool Ref Length F	Tool Type
		☐ Production (6 weeks Delivery)
		☐ Prototype (4 weeks Delivery) * Prototype Grade (6 weeks Delivery)
		☐ Valve Hole (6 weeks Delivery)

☐ Coolant Through Tool

☐ Air Mist Through Tool

☐ No Coolant

☐ Coolant to I.C Inserts

Balancing Standard – Please specify _____

Accessories

T-A® Drill Insert

See Standard Product Catalogue for details. NOTE: AMEC recommend drill inserts in grade K20, TiN Coated, or our new CVD Diamond Coated Drill Insert for maximum tool life.

Counterbore and Chamfer Inserts

AMEC manufacture and stock a range of application specific I.C inserts for its Alloy Wheel Programme.

75° Rhomboid Counterbore Inserts

Allied Item Number	Corner Radius
5051-0302	0.40 mm
5051-0307	0.60 mm
5051-0303	0.80 mm
5051-0304	1.00 mm
5051-0305	1.50 mm
5051-0308	2.00 mm
5051-0309	3.00 mm

55° Diamond Chamfer Inserts

Allied Item Number	Corner Radius
5191-0200	Sharp
5191-0202	0.40 mm
5191-0203	0.80 mm

Should your hole configuration be more complex than that covered by those specified in this chart, please forward a drawing of the hole profile, along with your coolant, shank and tool type preferences. Allied will then design a tool specifically to meet your requirements.

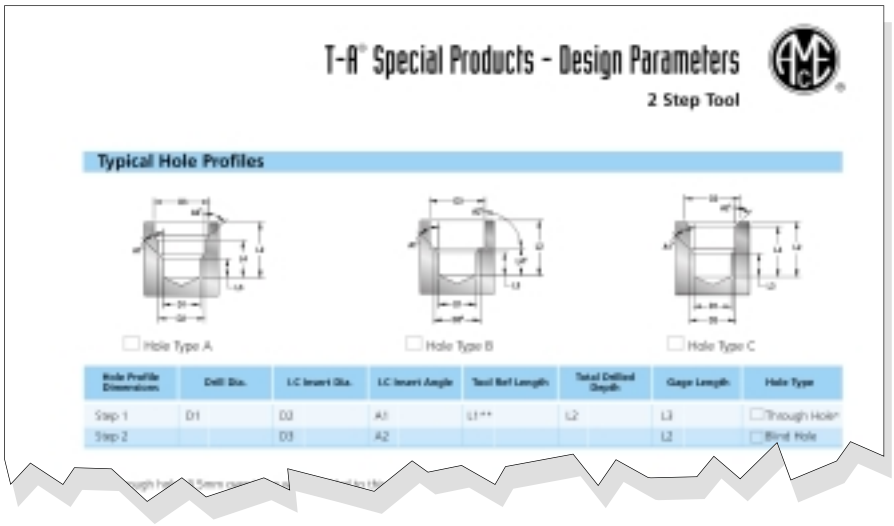
T-A® Special Products - Design Parameters

Guidelines on use

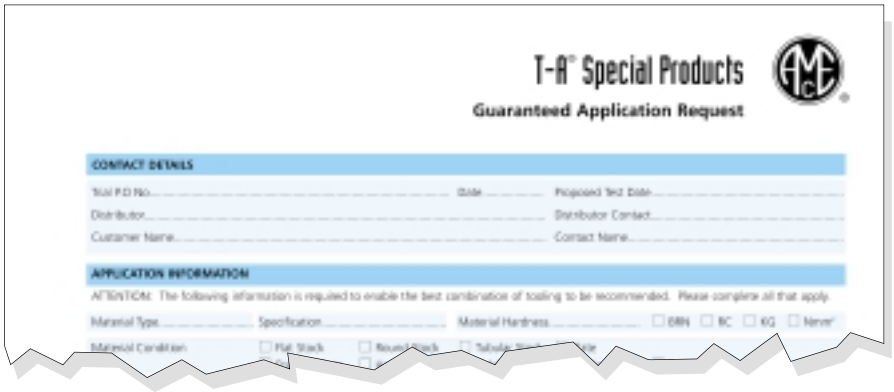
1. Copy the page concerning the type of tool required.

2. Select the required Holder Shank Type from page 13 and complete the correct area on the relevant form on pages 16,17,18 or 19.

3. Complete the forms with the required dimensions in the fields provided.



4. For a guaranteed test of our product, complete the form on page 21.



5. Send completed forms through to AMEC.

6. For a Special Form Insert quotation, please forward a hole profile.

Contact Details

Email: enquiries@alliedmaxcut.com
Fax: +44 (0) 1384 400 105

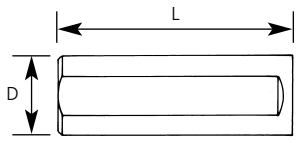
Your quotation will be forwarded within 5-7 working days.

T-A® Special Products - Design Parameters

Shank Type

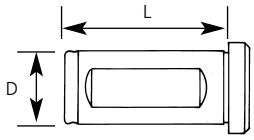
Lathe

Diameter	☐ 20	☐ 25	☐ 32	☐ 40	☐ 50	☐ 63
Coolant	☐ Through Shank	☐ Body Side Inlet	☐ RCA	☐ No Coolant		



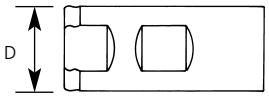
Flanged

Diameter	☐ 20	☐ 25	☐ 32	☐ 40	☐ 50
Coolant	☐ Through Shank	☐ RCA	☐ Drive Notch		



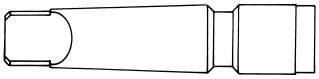
Weldon

Diameter	☐ 20	☐ 25	☐ 32	☐ 40	☐ 50	☐ 63
Coolant	☐ Through Shank	☐ Body Side Inlet	☐ RCA	☐ No Coolant		



Morse Taper

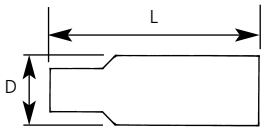
Diameter	☐ 2 MT	☐ 3 MT	☐ 4 MT	☐ 5 MT	☐ 6 MT	
Coolant	☐ Through waist in Taper	☐ Through Tang	☐ RCA	☐ No Coolant		
	☐ Draw Bolt					



Tanged - Straight Shank

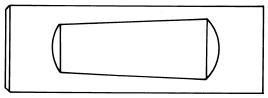
Diameter, please specify _____

Coolant	☐ No Coolant	☐ RCA	☐ Through Tang



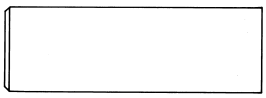
Whistle Notch

Diameter	☐ 16	☐ 20	☐ 25	☐ 32
Coolant	☐ No Coolant	☐ Through Shank	☐ RCA	
	☐ Flanged	☐ With Drive Notch		



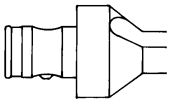
Cylindrical - No Flat

Diameter	☐ 20	☐ 25	☐ 32	☐ 40	☐ 50	☐ 63
Coolant	☐ Through Shank	☐ RCA	☐ No Coolant			



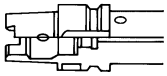
ABS

Diameter	☐ 25	☐ 32	☐ 40	☐ 50	☐ 63	☐ 80
	☐ 100	☐ 160	☐ 200			



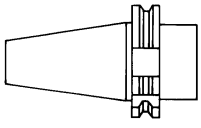
HSK

Diameter	☐ 32	☐ 40	☐ 50	☐ 63	☐ 80	☐ 100
Form	☐ A	☐ B	☐ C	☐ D	☐ E	☐ F



Steep Taper

Size	☐ 30	☐ 40	☐ 45	☐ 50	☐ 60
Standard	☐ DIN69871	☐ DIN 2080 (ISO)	☐ BT MAS 403		
Coolant:	☐ Through Rear (AD)	☐ Through Flange (B)	☐ Specify _____		



For other shanks please specify in box on applicable design page.

T-A® Special Products - Design Parameters

QDSI 34™ Inserts

"ISO Inserts – the choice is yours"

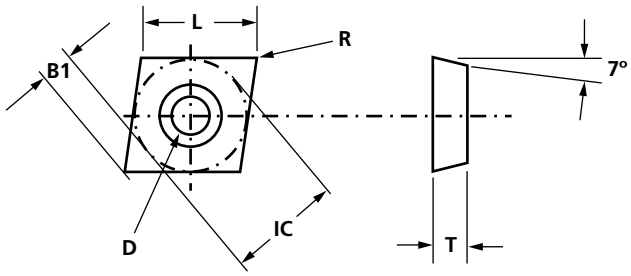
AMEC now offers a range of ISO Inserts specifically developed for use in its special product programme.

The combination of a tough, CVD coated substrate and an optimised geometry make them the first choice for use in most combination tool applications.

Should you require another ISO insert manufacturer, please enter your choice in the 'Prefered Manufacturer' box area on the combination tool design forms, pages 16-18.

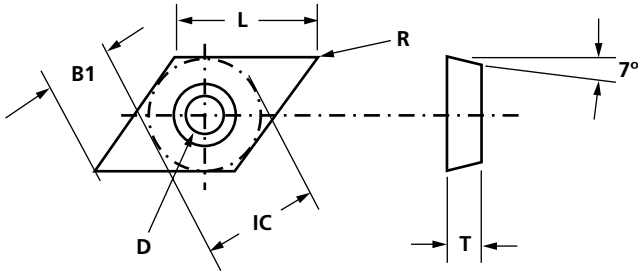
If your combination tool is designed with QDSI 34™ inserts, it will be supplied complete with I.C. insert screws to suit.

QDSI 34™ 80° Diamond



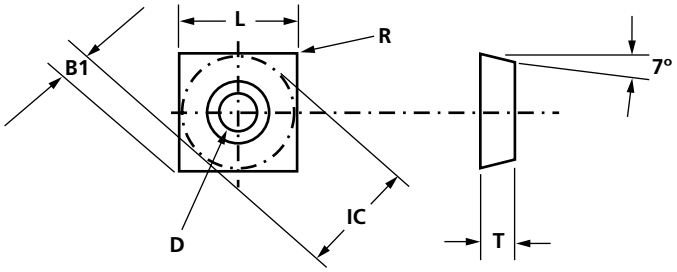
Insert Item No.		Dimensions - mm							Screw Pack (10 Pcs.)	Torx Driver
ISO Designation	ANSI Designation	IC	B1	L	T	R	D	Screw Size	Item No.	Item No.
CCGT-060202	CCGT 2(1.5) 0.5	6,35	1,65	6,31	2,39	0,20	2,79	M2,5 x 0,45 x 6,0	24645-10	8T-8
CCMT-060204	CCMT 2(1.5)1	6,35	1,55	6,27	2,39	0,40	2,79			
CCMT-060208	CCMT 2(1.5) 2	6,35	1,32	6,45	2,39	0,80	2,79			
CCGT-06T308	CCGT 2(2.5) 2	6,35	1,32	6,45	3,96	0,80	2,79			
CCGT-09T302	CCGT 3(2.5) 0.5	9,53	2,54	9,49	3,96	0,20	4,39	M3,5 x 0,6 x 9,0	165795-10	8T-15
CCMT-09T304	CCMT 2(2.5) 1	9,53	2,44	9,45	3,96	0,40	4,39			
CCMT-09T308	CCMT 3(2.5) 2	9,53	2,21	9,37	3,96	0,80	4,39			
CCMT-120404	CCMT 431	12,70	3,30	12,62	4,76	0,40	5,49	M4,5 x 0,75 x 10,5	106022-10	8T-20
CCMT-120408	CCMT 432	12,70	3,10	12,55	4,76	0,80	5,49			

QDSI 34™ 55° Diamond



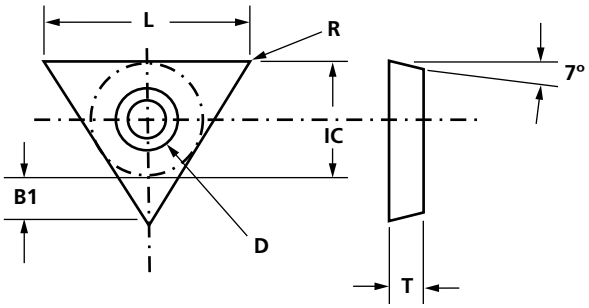
Insert Item No.		Dimensions - mm							Screw Pack (10 Pcs.)	Torx Driver
ISO Designation	ANSI Designation	IC	B1	L	T	R	D	Screw Size	Item No.	Item No.
DCGT-070202	DCGT 2(1.5) 0.5	6,35	3,47	6,18	2,39	0,20	2,79	M2,5 x 0,45 x 6,0	24645-10	8T-8
DCMT-070204	DCMT 2(1.5) 1	6,35	3,24	6,01	2,39	0,40	2,79			
DCMT-070208	DCMT 2(1.5) 2	6,35	2,78	5,67	2,39	0,80	2,79			
DCMT-11T304	DCMT 3(2.5) 1	9,53	5,09	9,19	3,96	0,40	4,39	M3,5 x 0,6 x 9,0	165795-10	8T-15
DCMT-11T308	DCMT 3(2.5) 2	9,53	4,63	8,85	3,96	0,80	4,39			

QDSI 34™ 90° Square



Insert Item No.		Dimensions - mm							Screw Pack (10 Pcs.)	Torx Driver
ISO Designation	ANSI Designation	IC	B1	L	T	R	D	Screw Size	Item No.	Item No.
SCMT-09T304	SCMT 3(2.5) 1	9,53	1,80	9,53	3,96	0,40	4,39	M3,5 x 0,6 x 9,0	165795-10	8T-15

QDSI 34™ 60° Triangle

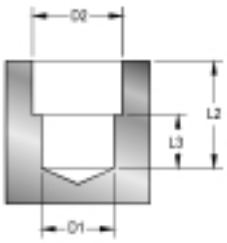


Insert Item No.		Dimensions - mm							Screw Pack (10 Pcs.)	Torx Driver
ISO Designation	ANSI Designation	IC	B1	L	T	R	D	Screw Size	Item No.	Item No.
TCGT-06T102	TCGT 1.2(1.2) 0.5	3,97	1,78	7,65	1,98	0,20	2,16	M2,0 x 0,4 x 4,0	307282-10	8T-6
TCGT-06T104	TCGT 1.2(1.2) 1	3,97	1,59	7,37	1,98	0,40	2,16			
TCGT-06T108	TCGT 1.2(1.2) 2	3,97	1,19	6,79	1,98	0,80	2,16			
TCGT-090202	TCGT 1.8(1.5) 0.5	5,56	2,58	10,83	2,39	0,20	2,49	M2,2 x 0,45 x 5,0	56652-10	8T-7
TCGT-090204	TCGT-1.8(1.5) 1	5,56	2,38	10,54	2,39	0,40	2,49			
TCGT-090208	TCGT-1.8(1.5) 2	5,56	1,98	9,97	2,39	0,80	2,49			
TCGT-110202	TCGT 2(1.5) 0.5	6,35	2,98	12,42	2,39	0,20	2,79	M2,5 x 0,45 x 6,0	24645-10	8T-8
TCMT-110204	TCMT 2(1.5) 1	6,35	2,78	12,13	2,39	0,40	2,79			
TCMT-110208	TCMT 2(1.5) 2	6,35	2,38	11,56	2,39	0,80	2,79			
TCMT-16T304	TCMT 3(2.5) 1	9,53	4,37	18,48	3,96	0,40	4,39	M3,5 x 0,6 x 9,0	165795-10	8T-15
TCMT-16T308	TCMT 3(2.5) 2	9,53	3,97	17,91	3,96	0,80	4,39			
TCGT-220408	TCGT 432	12,70	5,56	24,26	4,76	0,80	5,49	M4,5 x 0,75 x 10,5	106022-10	8T-20

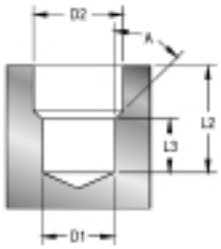
T-A® Special Products - Design Parameters

1 Step Tool

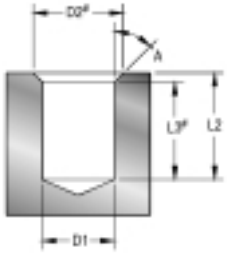
Typical Hole Profiles



☐ Hole Type A



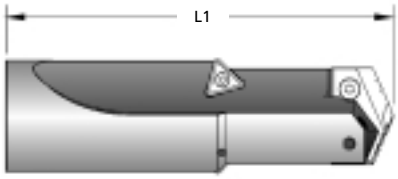
☐ Hole Type B



☐ Hole Type C

Hole Profile Dimensions	Drill Dia.	I.C Insert Dia.	I.C Insert Angle	Tool Ref Length	Total Drilled Depth	Guage Length	Hole Type
Step 1	D1	D2	A1	L1**	L2	L3	☐ Through Hole*
							☐ Blind Hole

* For through holes 3.5mm overstroke will be added.



** (For Information Tool ref length L1 does not include RCA when used)

☐ Straight Fluted Pilot

☐ Helical Fluted Pilot

I.C Insert Style

	Preferred Manufacturer	Corner Radius	Insert Type
Step 1			☐ 80° Diamond ☐ Triangle ☐ Square ☐ 55° Diamond ☐ 35° Diamond

☐ Coolant to I.C Inserts

Chromed bearing area behind inserts ☐

Specify diameter required _____

Min 1mm bigger than D2 (I.C Insert Diameter)

Chromed Pilot for stability ☐

Holder Shank Type	
Standard (e.g. whistle notch)	
Diameter (e.g. 20mm)	
Coolant requirement (e.g. Through Shank)	

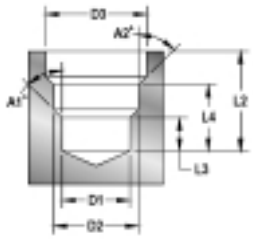
For Shank Types refer to page 13.

If your requirement is not listed, please specify.

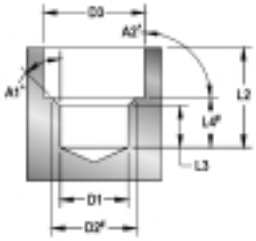
T-A® Special Products - Design Parameters

2 Step Tool

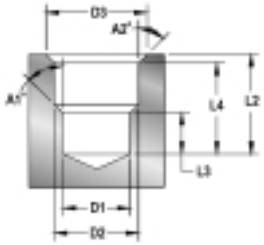
Typical Hole Profiles



☐ Hole Type A



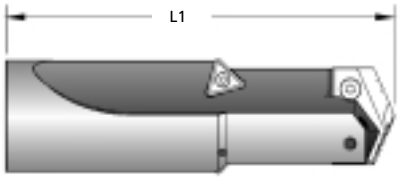
☐ Hole Type B



☐ Hole Type C

Hole Profile Dimensions	Drill Dia.	I.C Insert Dia.	I.C Insert Angle	Tool Ref Length	Total Drilled Depth	Guage Length	Hole Type
Step 1	D1	D2	A1	L1**	L2	L3	☐ Through Hole*
Step 2		D3	A2			L4	☐ Blind Hole

* For through holes 3.5mm overstroke will be added.



** (For Information Tool ref length L1 does not include RCA when used)

☐ Straight Fluted Pilot

☐ Helical Fluted Pilot

I.C Insert Style

	Preferred Manufacturer	Corner Radius	Insert Type				
Step 1			☐ 80° Diamond	☐ Triangle	☐ Square	☐ 55° Diamond	☐ 35° Diamond
Step 2			☐ 80° Diamond	☐ Triangle	☐ Square	☐ 55° Diamond	☐ 35° Diamond

☐ Coolant to I.C Inserts

Chromed bearing area behind inserts ☐

Specify diameter required _____

Min 1mm bigger than D3 (I.C Insert Diameter)

Chromed Pilot for stability ☐

Holder Shank Type	
Standard (e.g. whistle notch)	
Diameter (e.g. 20mm)	
Coolant requirement (e.g. Through Shank)	

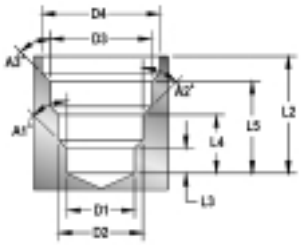
For Shank Types refer to page 13.

If your requirement is not listed, please specify.

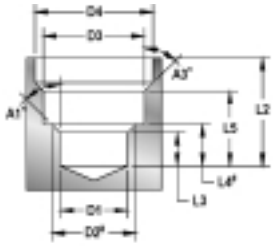
T-A® Special Products - Design Parameters

3 Step Tool

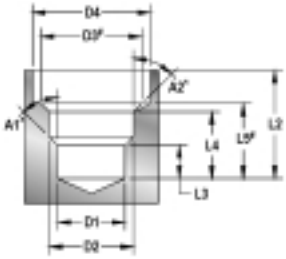
Typical Hole Profiles



☐ Hole Type A



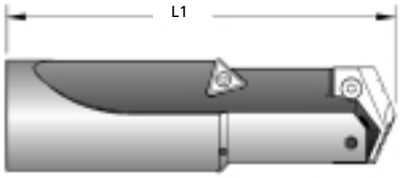
☐ Hole Type B



☐ Hole Type C

Hole Profile Dimensions	Drill Dia.		I.C Insert Dia.		I.C Insert Angle		Tool Ref Length		Total Drilled Depth		Gage Length		Hole Type
Step 1	D1		D2		A1		L1**		L2		L3		☐ Through Hole*
Step 2			D3		A2						L4		☐ Blind Hole
Step 3			D4		A3						L5		

* For through holes 3.5mm overstroke will be added.



** (For Information Tool ref length L1 does not include RCA when used)

☐ Straight Fluted Pilot

☐ Helical Fluted Pilot

I.C Insert Style

	Preferred Manufacturer	Corner Radius	Insert Type				
Step 1			☐ 80° Diamond	☐ Triangle	☐ Square	☐ 55° Diamond	☐ 35° Diamond
Step 2			☐ 80° Diamond	☐ Triangle	☐ Square	☐ 55° Diamond	☐ 35° Diamond
Step 3			☐ 80° Diamond	☐ Triangle	☐ Square	☐ 55° Diamond	☐ 35° Diamond

☐ Coolant to I.C Inserts

Chromed bearing area behind inserts ☐

Specify diameter required_____

Min 1mm bigger than D4 (I.C Insert Diameter)

Chromed Pilot for stability ☐

Holder Shank Type	
Standard (e.g. whistle notch)	
Diameter (e.g. 20mm)	
Coolant requirement (e.g. Through Shank)	

For Shank Types refer to page 13.

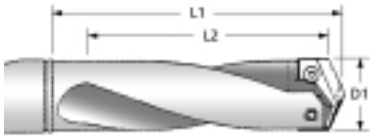
If your requirement is not listed, please specify.

T-A® Special Products - Design Parameters

Special Length

Special Length Holders

☐ Straight Fluted



☐ Helically Fluted

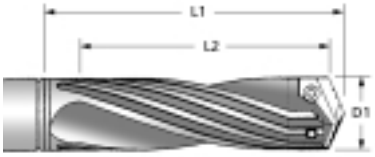
Hole Straightness Tolerance *	Drill Insert Diameter D1	** Tool Ref Length L1	Total Drill Depth L2	Drill Insert Size Specific Body Diameter
				☐ Yes

* To ensure straightness tolerances up to 0.0127mm/25mm a bearing area may be required.

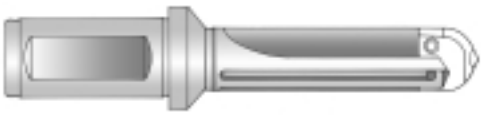
☐ Wear Pads

☐ Chromed Bearing Area

Chrome Holder



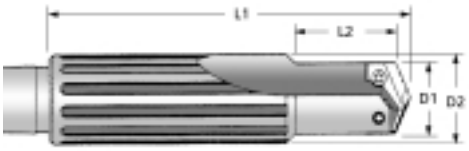
☐ Helically Fluted



☐ Straight Fluted

Drill Insert Diameter D1	Bushing Diameter if used	Tool Ref Length L1**	Total Drill Depth L2

Chrome Bushing Holder



☐ Chrome Bushing Drill

Holder Shank Type	
Standard (e.g. whistle notch)	
Diameter (e.g. 20mm)	
Coolant requirement (e.g. Through Shank)	

For Shank Types refer to page 13.
If your requirement is not listed, please specify.

Drill Insert Diameter D1	Bushing Diameter - D2 Min 1mm bigger than D1	Depth of Cut L2	Size Range Insert Diameter Specific ☐ Series Flexibility ☐

** Tool ref length L1 does not include RCA when used.

T-A® Special Products

Guaranteed Application Request - Guidelines on use

Guidelines for use of the T-A® Guaranteed Application Request Form

The Request for T-A® Guaranteed Application is a method of proving AMEC tooling on demonstration.

The T-A® Guaranteed Application form must be completed as fully as possible and sent to the Allied Maxcut Engineering Department.

Example – Required Information

Contact Details:

Purchase Order Number
Date
Customer Name
Customer Telephone and Fax Number
Proposed Date of the Demonstration
Customer Contact Name

Application Information:

Hole:	Diameter, Depth, Finish and Tolerance
Material:	Specification, Hardness and Type (Flat/Rounds etc)

Machine and Set-up Information:

Machine:	Model, Type, and Power available
Tool:	Shank, Stationery or Revolves
Coolant:	Type, Volume, Pressure and Through Tool/Flood

Current Drill Information:

Details of current, or previous tooling used on application, and its performance history

What defines a successful test:

The objective of the demonstration i.e. Decreased Cycle Time, Better Chip Control, Safer Process, Longer Tool Life and Reduced Cost per Hole

Providing the Allied Maxcut Engineering Department have enough information to judge the application, and its objectives are feasible, the test will be approved.

T-A® Special Products

Guaranteed Application Request

CONTACT DETAILS

Trial P.O No..... Date..... Proposed Test Date.....

Distributor..... Distributor Contact.....

Customer Name..... Contact Name.....

APPLICATION INFORMATION

ATTENTION: The following information is required to enable the best combination of tooling to be recommended. Please complete all that apply.

Material Type..... Specification..... Material Hardness..... ☐ BRN ☐ RC ☐ KG ☐ Nmm²

Material Condition ☐ Flat Stock ☐ Round Stock ☐ Tubular Stock ☐ Plate ☐ Stacked Plate ☐ Hot Rolled ☐ Cold Rolled ☐ Casting ☐ Forging

Hole Diameter..... ☐ mm ☐ Inch Hole Depth ..... ☐ Thru Hole ☐ Blind Hole

Drilled Hole Tolerance Req'd..... Drilled Hole RMS Finish Req'd..... ☐ µInch ☐ µMetre

MACHINE AND SET-UP INFORMATION

Machine Tool Type ☐ Machining Centre ☐ Lathe ☐ Boring Mill ☐ Transfer Line ☐ Multi-spindle auto ☐ Multi spindle drill ☐ Radial Arm ☐ Gantry Machine ☐ Dial Index Machine ☐ Pedestal Drill ☐ Gun Drilling Machine ☐ Other

Machine Tool Builder..... Model.....

Machine Tool Control ☐ CNC ☐ NC ☐ Manual ☐ Other.....

Spindle Orientation ☐ Vertical ☐ Horizontal ☐ Other.....

Tool ☐ Stationery ☐ Revolves

Available Power..... ☐ KW ☐ HP Available Feed Thrust..... ☐ Newtons ☐ Lbs

Available Speed..... ☐ Variable ☐ Fixed ☐ RPM ☐ m/min

Preferred Shank Type ☐ Flanged ☐ Morse No ☐ RCA ☐ Lathe Diameter_____ ☐ mm ☐ Inch

Coolant Type ☐ Cutting Oil ☐ Water Soluble Oil ☐ Air Mist ☐ Air ☐ Dry

Coolant Pressure..... ☐ Bar ☐ PSI

Coolant Flow Rate..... ☐ L/min ☐ GPM Coolant ☐ Through Tool ☐ External

CURRENT DRILL INFORMATION

Drill Manufacturer..... Part Number.....

Drill Type..... ☐ Twist ☐ Brazed ☐ Indexable Insert ☐ Gun Drill ☐ Removable Tip ☐ Other.....

Tool Grade ☐ HSS ☐ Carbide ☐ Ceramic ☐ Other.....

Tool Coating ☐ Uncoated ☐ TiN ☐ TiCN ☐ TiAlN ☐ Other.....

Current Speed..... ☐ RPM ☐ M/min ☐ Current Feed Rate..... ☐ mm/rev ☐ mm/min

Average Number of Holes Drilled New..... After Regrind?.....

Reason(s) for Tool Change ☐ Wear ☐ Chipping ☐ Fracture ☐ Chatter ☐ Burr ☐ Losing Hole Tolerance ☐ Losing Chip Control ☐ New Application ☐ Other.....

What criteria defines a successful test ☐ Decreased Cycle Time ☐ Better Chip Control ☐ Safer Process ☐ Longer Tool Life ☐ Reduced Cost per Hole ☐ Other.....

Potential this application: Current Annual Usage €/£: Tools per Annum?

FOR OFFICE USE ONLY

Application Engineer: Number: Status:

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