KORLOY

AEROSPACE INDUSTRY

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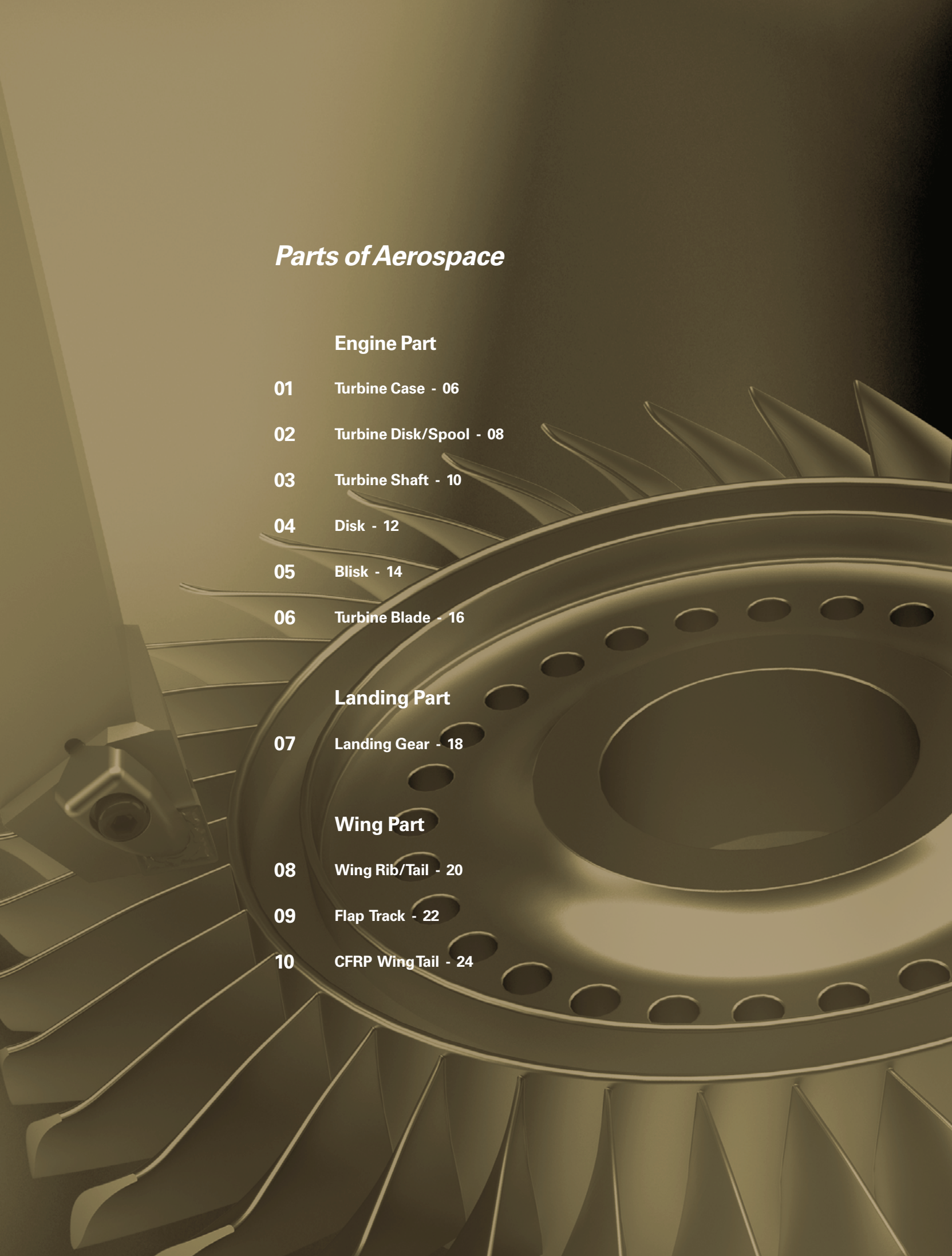
AEROSPACE INDUSTRY

Aerospace which North America and Europe have mainly led seems to be more expanded according to join of China, India, Japan, Brazil and Russia in the industry.

Korloy supplies you appropriate tools based on the technique certified in the field of precision machining for manufacturing engine, turbine, wing, frame and landing gear etc.

Korloy will try to satisfy customers' needs with various and accurate total tooling.

KORLOY



Parts of Aerospace

Turbine Case
- Ni-based Superalloy -

Turbine Spool
- Ni-based Superalloy -

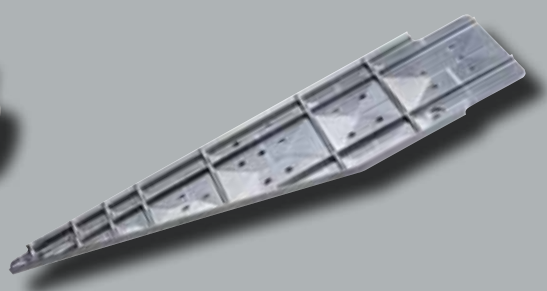
Turbine Disk
- Ni-based Superalloy -

Parts of Aerospace

Turbine Blade
-Titanium alloy -

Landing Gear
-Titanium alloy -

Wing Tail
- Aluminum alloy -

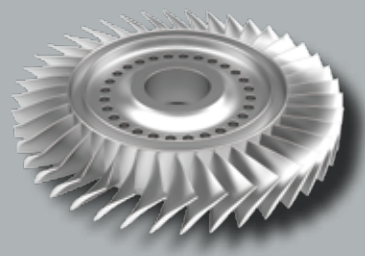


Turbine Shaft

- Ni-based Superalloy -

Disk

- Ni-based Superalloy -

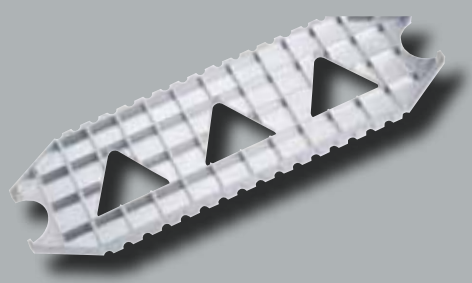


Blisk

- Ni-based Superalloy -

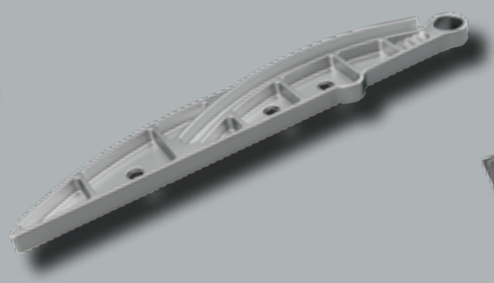
Wing Rib

- Aluminum alloy -



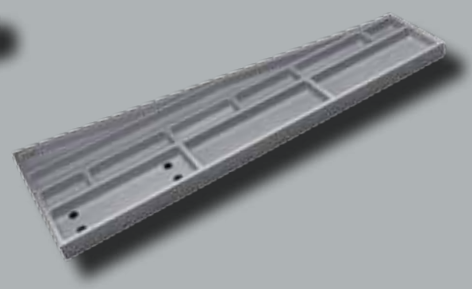
Flap Track

-Titanium alloy -



Wing Tail_CFRP

-Titanium alloy -



1 Alpha Mill
< **AMC** >
[Boss Parts]
: Facing - Finishing / Roughing

01 Turbine Case

Ni-based Superalloy

2 Mach Drill Plus
< **MSDPH-S** >
[Core Hole]
: Centering & Drilling

3 MSB Tool
< MBFR >

[Hole]
: Chamfering - Finishing

<Single Edge type> *<Twin Edge type >*

4 Special Boring Bar
< FBH >

[Turbine Case Hole]
: ID Boring - Finishing

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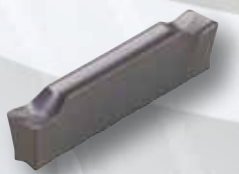
5 Solid Endmill
< VFE(Flat) >

[Side, Hole]
: Shouldering - Finishing

6 KGT Holder
< KGEHL(KGMN) >

[Turbine Case]
: Grooving - Finishing



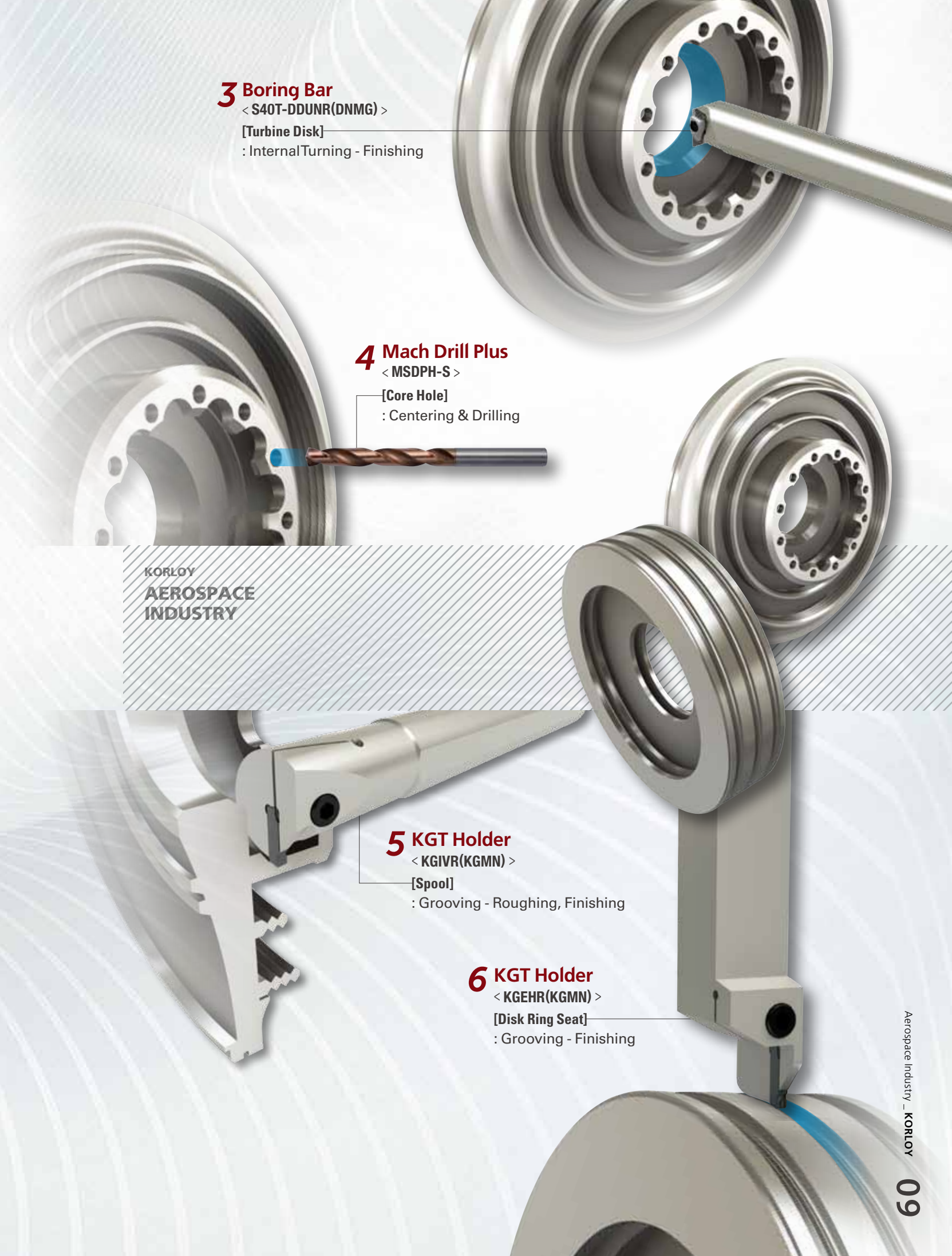
<KGMN type >

1 KGT Holder
< KGFHR(KGMN) >
[Disk Boring Seat]
: Grooving - Finishing

02 Turbine Disk / Spool

Ni-based Superalloy

2 Solid Endmill
< VFE(Flat) >
[Hole Half Side]
: Shouldering - Finishing



3 Boring Bar
< S40T-DDUNR(DNMG) >

[Turbine Disk]
: Internal Turning - Finishing

4 Mach Drill Plus
< MSDPH-S >

[Core Hole]
: Centering & Drilling

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5 KGT Holder
< KGIVR(KGMN) >

[Spool]
: Grooving - Roughing, Finishing

6 KGT Holder
< KGEHR(KGMN) >

[Disk Ring Seat]
: Grooving - Finishing

1 Solid Endmill
< VFE(Flat) >
[Turbine Shaft Hole Half Side]
: Shouldering - Finishing

03 Turbine Shaft

Ni-based Superalloy

2 Straight Reamer
< TMRS >
[Hole & Guide]
: Reaming - Finishing

3 Lever Lock System Holder
< PRDNN(RNMG) >

[Shaft]
: External Turning - Roughing, Finishing

<RNMG type>

4 Lever Lock System Holder
< PCLNR(CNMG) >

[Shaft]
: External Turning - Roughing, Finishing

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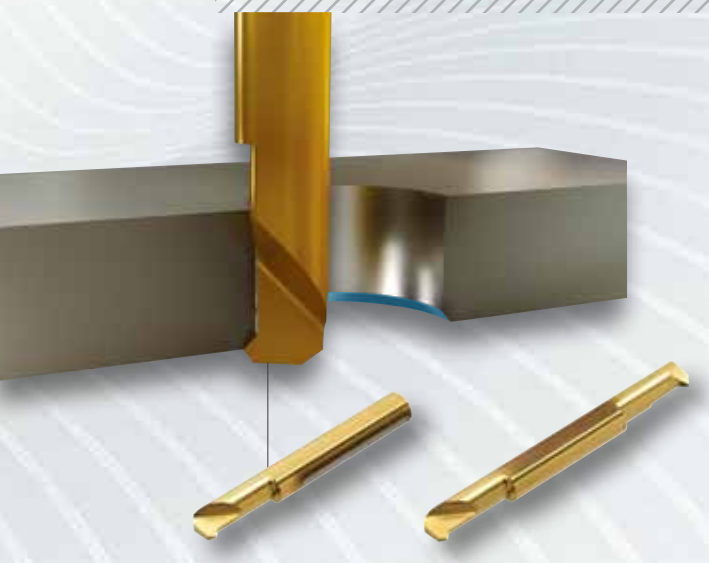
AEROSPACE
INDUSTRY



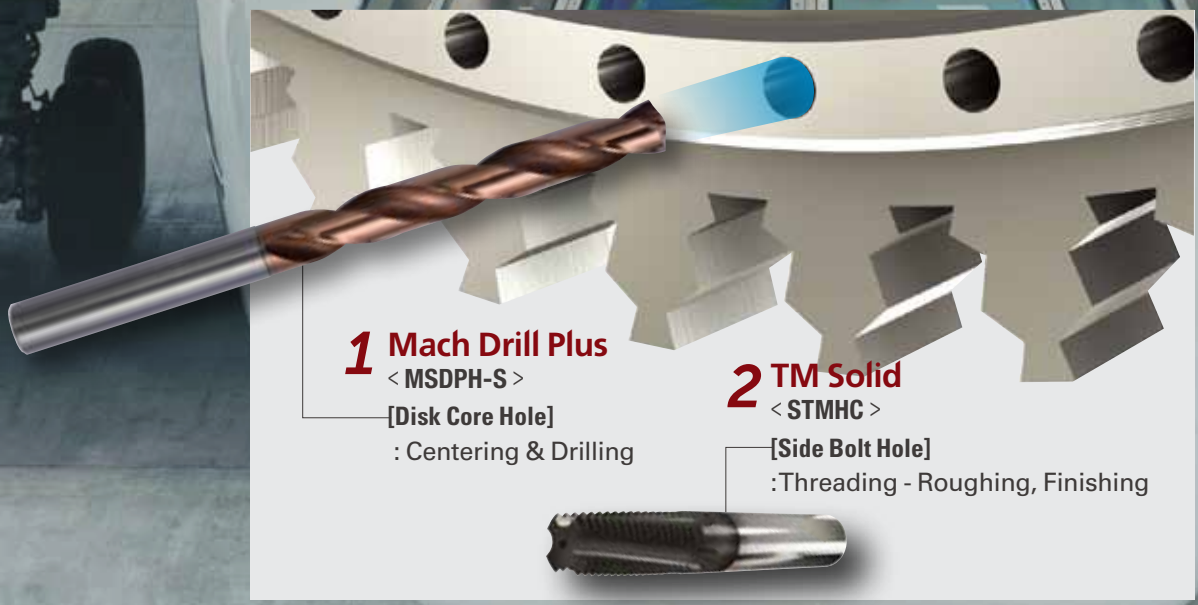
<single Edge type > *<Twin Edge type >*

5 Exchangeable Drill
< TPDC >

[Turbine Shaft Hole]
: Centering & Drilling

6 MSB Tool
< MBFR >

[Hole]
: Chamfering - Finishing

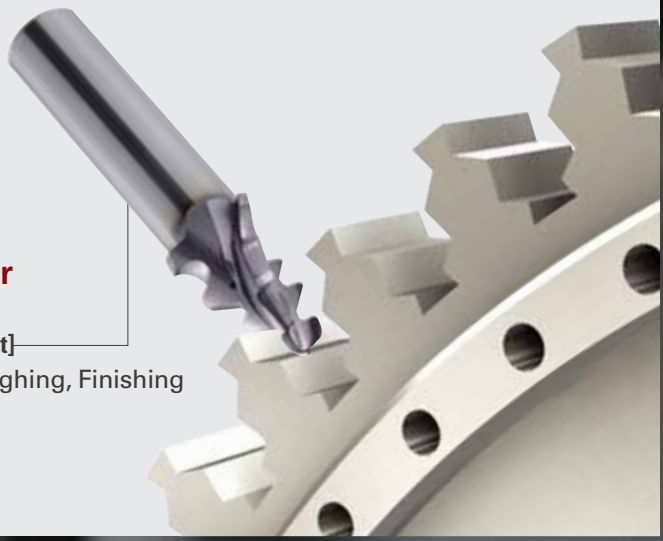


1 Mach Drill Plus
< MSDPH-S >
[Disk Core Hole]
: Centering & Drilling

2 TM Solid
< STMHC >
[Side Bolt Hole]
:Threading - Roughing, Finishing

04 Disk

Ni-based Superalloy



3 Tree Cutter
< STE >
[Blade Root Slot]
: Sloting-Roughing, Finishing

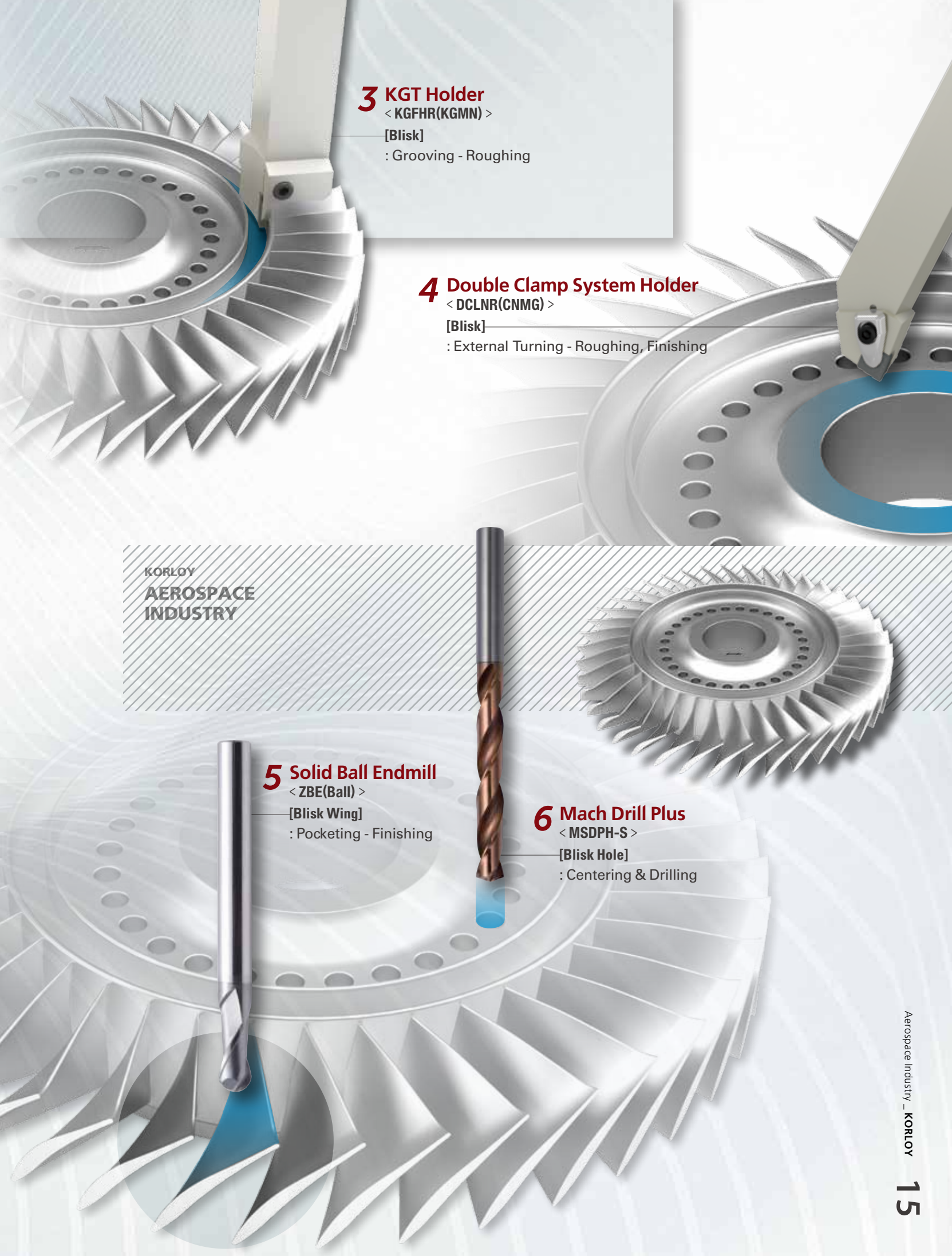

4 Double Clamp System Holder
< DVJNR(VNMG) >
[Disk Face, Shape]
: External Turning - Roughing
5 Indexable Drill
< KING DRILL >
[Disk Hole]
: Drilling
KORLOY
AEROSPACE INDUSTRY
6 Boring Bar
< S40T-DDUNR(DNMG) >
[Disk]
: Internal Turning - Roughing, Finishing
7 Double Clamp System Holder
< DCLNR(CNMG) >
[Disk Face, Shape]
: External Turning - Roughing, Finishing

1 Solid Endmill
< **VFE(Flat)** >
[Blisk]
: Shouldering - Finishing

05 Blisk

Ni-based Superalloy

2 HFM(High Feed Mill)
< **HFMS** >
[Blisk Wing]
: Pocketing - Roughing



3 KGT Holder
< KGFHR(KGMN) >

[Blisk]
: Grooving - Roughing

4 Double Clamp System Holder
< DCLNR(CNMG) >

[Blisk]
: External Turning - Roughing, Finishing

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AEROSPACE INDUSTRY

5 Solid Ball Endmill
< ZBE(Ball) >

[Blisk Wing]
: Pocketing - Finishing

6 Mach Drill Plus
< MSDPH-S >

[Blisk Hole]
: Centering & Drilling

06 Turbine Blade

Titanium alloy

1 Special Cutter
< KFF-TB2-FIN, KTF-TB2-ROU >
[Blade Core]
: Copying - Roughing, Finishing

2 Future Mill
< FMR-P >
[Blade Face]
: Contouring - Roughing

3 Indexable Ball Endmill
< GBE, BRE >
[Blade Face]
: Contouring - Roughing

3 Solid Ball Endmill

< ZBE(Ball) >

[Blade Face]

: Contouring - Finishing

4 Mach Drill Plus

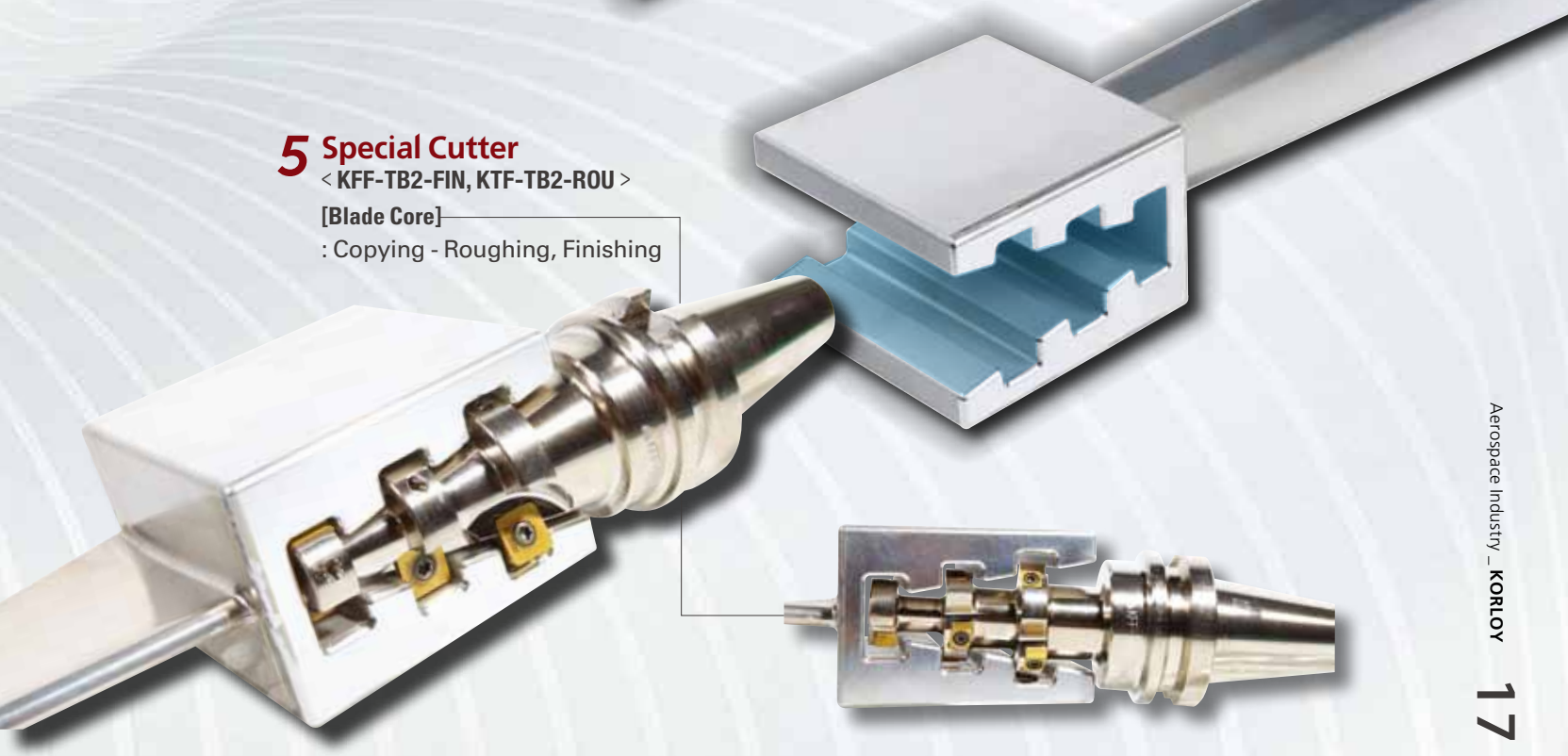
< MSDPH-S >

[Blade Core Hole]

: Centering & Drilling

KORLOY

AEROSPACE INDUSTRY



5 Special Cutter

< KFF-TB2-FIN, KTF-TB2-ROU >

[Blade Core]

: Copying - Roughing, Finishing

1 HRMDouble
< HRMDC >
[Landing Gear Boss]
: Facing - Roughing, Finishing

07 Landing Gear

Titanium alloy

2 HSK/BT Tooling System
< Multi-Edge Type >
[Landing Gear]
: Shouldering & Facing - Roughing

3 Double Clamp System Holder
< DVJNR(VNMG) >

[Landing Gear]
: External Turning - Roughing, Finishing

4 Lever Lock System Holder
< PCLNR(CNMG) >

[Landing Gear]
: External Turning - Roughing, Finishing

5 Boring bar
< A32S-PCLNR(CNMG) >

[Landing Gear]
: Internal Turning - Roughing, Finishing

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AEROSPACE INDUSTRY

6 Indexable Drill
< KING DRILL >

[Landing Gear Hole]
: Drilling

7 Straight Reamer
< TMRS >

[Hole & Guide]
: Reaming - Finishing

8 Special Boring Bar
< FBH >

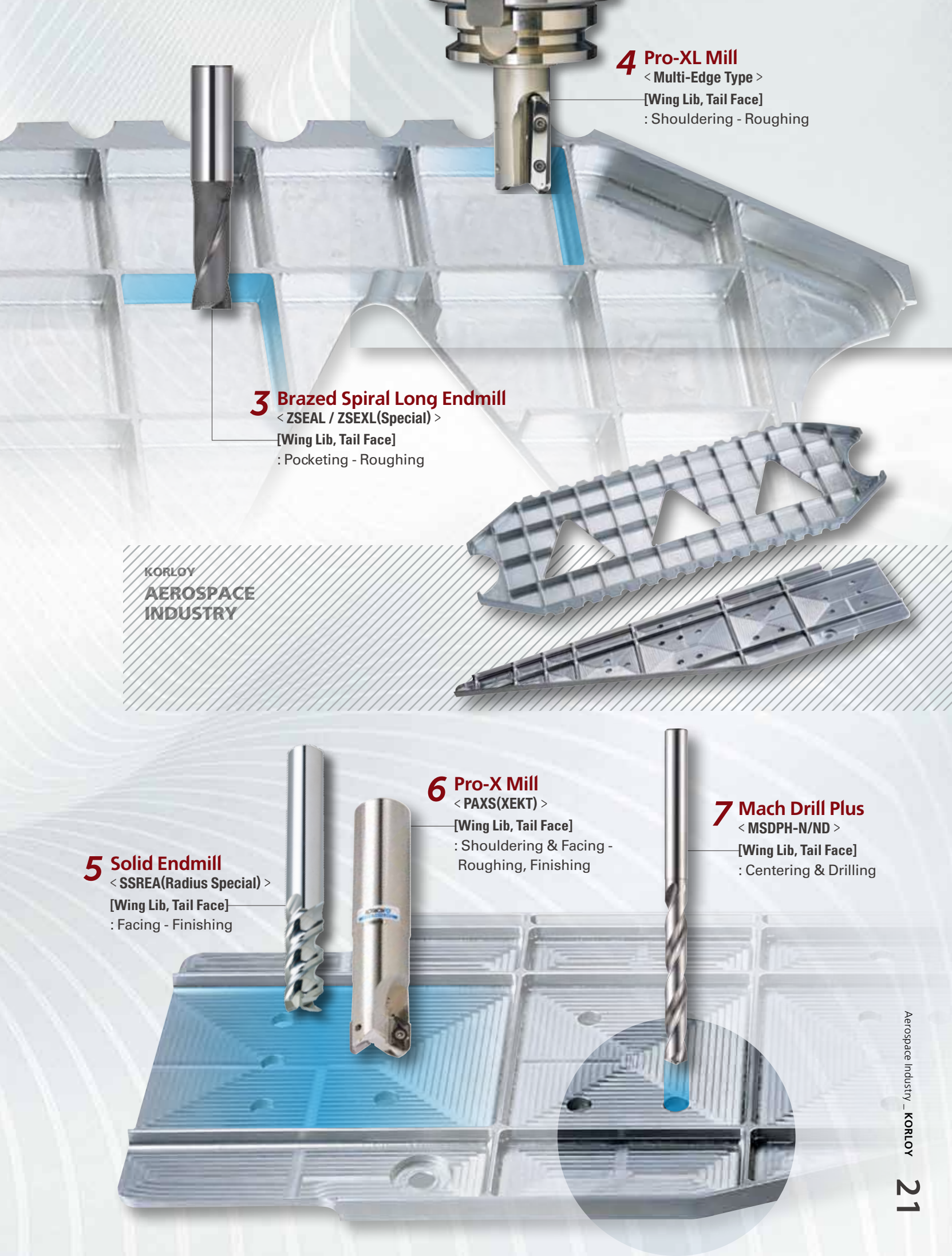
[Bore Hole]
: Boring - Finishing

1 Solid Endmill
< **APFE(Flat)** >
[Wing Lib, Tail Face]
: Shouldering - Finishing

08 Wing Rib / Tail

Aluminum alloy

2 Pro-V Mill
< **PAV(XDET)** >
[Wing Lib Bottom]
: Ramping & Facing - Roughing



4 Pro-XL Mill
< Multi-Edge Type >
[Wing Lib, Tail Face]
: Shouldering - Roughing

3 Brazed Spiral Long Endmill
< ZSEAL / ZSEXL(Special) >
[Wing Lib, Tail Face]
: Pocketing - Roughing

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INDUSTRY

5 Solid Endmill
< SSREA(Radius Special) >
[Wing Lib, Tail Face]
: Facing - Finishing

6 Pro-X Mill
< PAXS(XEKT) >
[Wing Lib, Tail Face]
: Shouldering & Facing - Roughing, Finishing

7 Mach Drill Plus
< MSDPH-N/ND >
[Wing Lib, Tail Face]
: Centering & Drilling

09 Flap Track

Titanium alloy

1 Indexable Drill
< **KING DRILL** >
[Flap Track Hole]
: Drilling

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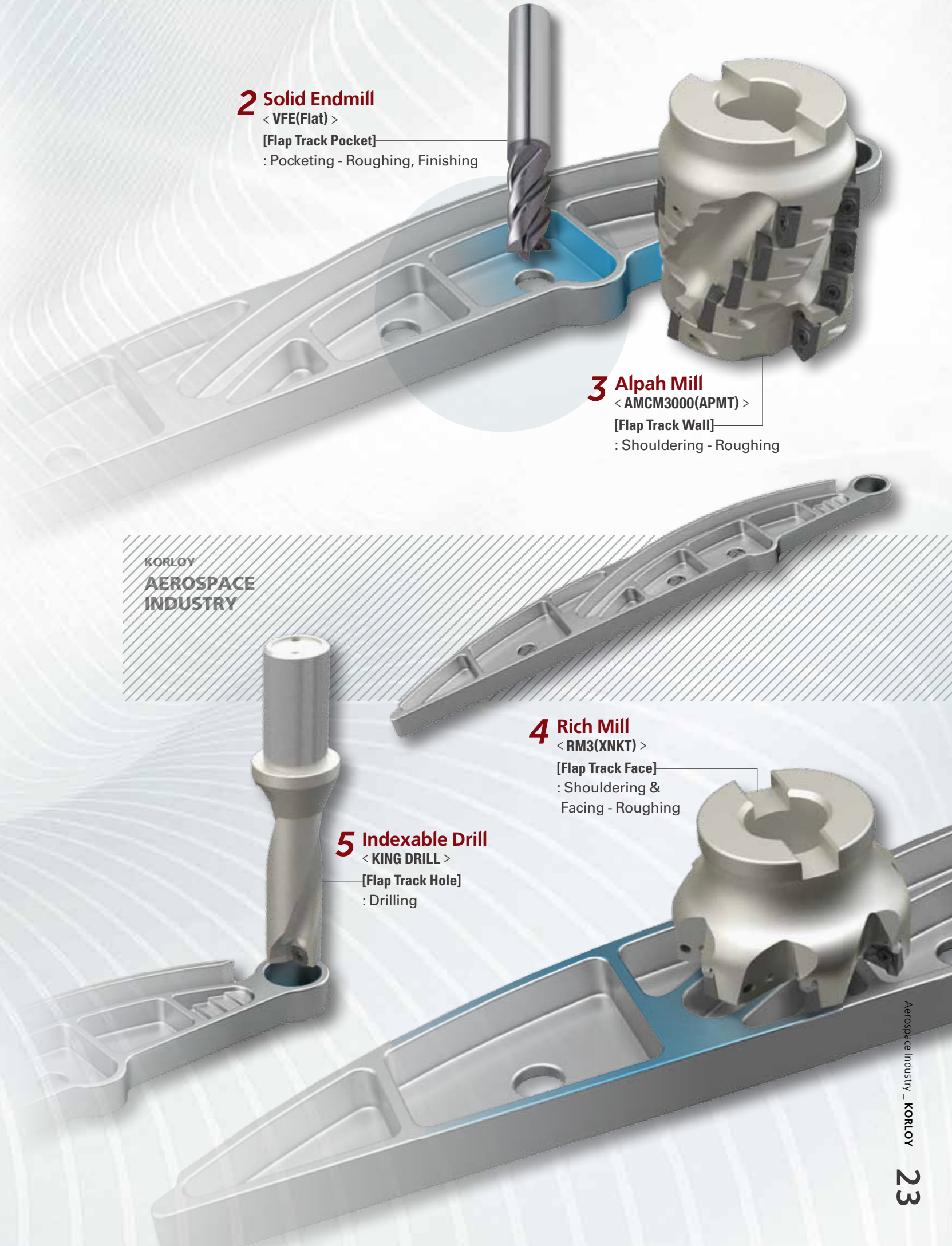
AEROSPACE INDUSTRY



2 Solid Endmill
< **VFE(Flat)** >
[Flap Track Pocket]
: Pocketing - Roughing, Finishing

3 Alpah Mill
< **AMCM3000(APMT)** >
[Flap Track Wall]
: Shouldering - Roughing

4 Rich Mill
< **RM3(XNKT)** >
[Flap Track Face]
: Shouldering &
Facing - Roughing

5 Indexable Drill
< **KING DRILL** >
[Flap Track Hole]
: Drilling

10 CFRP Wing Tail

CFRP

1 Solid Endmill

< **Router Endmill(CCR)** >

[Wing Pocket]

: Pocketing - Roughing

2 Solid Endmill
< Dual Helix Router Endmill(CCDR) >

[Wing Pocket]
: Shouldering - Finishing

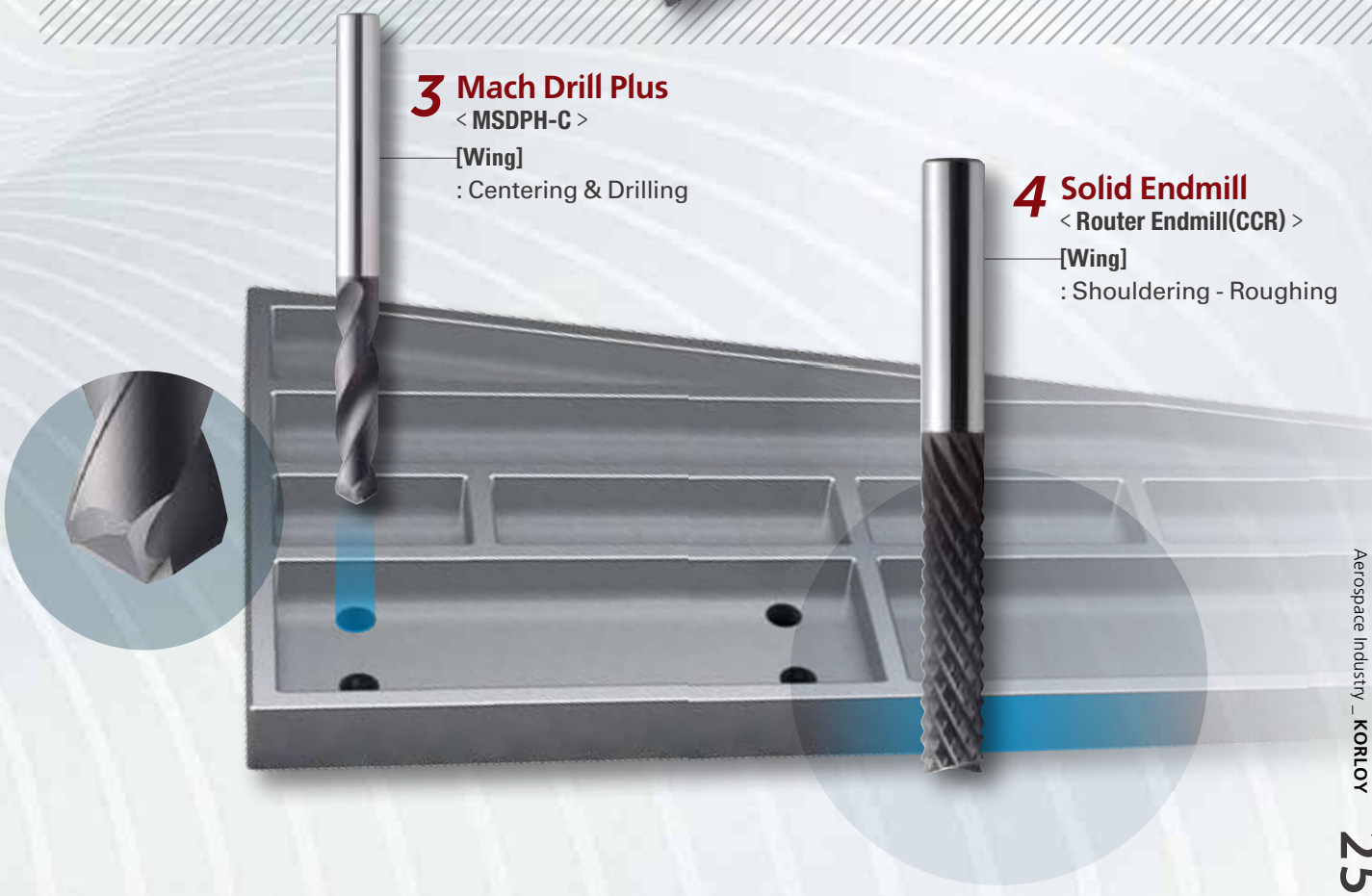
KORLOY
AEROSPACE INDUSTRY

3 Mach Drill Plus
< MSDPH-C >

[Wing]
: Centering & Drilling

4 Solid Endmill
< Router Endmill(CCR) >

[Wing]
: Shouldering - Roughing



Inconel

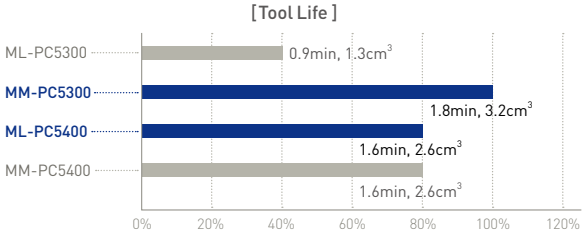
Alpha Mill

WORKPIECE

TOOL LIFE RESULT

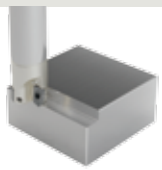
Holder		AMS2016HS
Insert		APMT11T3PDER-ML, APMT11T3PDSR-MM
Grade		PC5300, PC5400
Machine		HYUNDAI WIA VC750M, BT50
Workpiece		Inconel 718(HRC 38~40)
Cutting Speed		vc = 60(m/min)
Feed Rate		fz = 0.06(mm/t)
Depth		ap = 2.0(mm), ae = 2.0(mm)
Cutting Fluid	Method	Wet
	Pressure	30bar
	Concentration	6~8%

[Tool Life]



Alpha Mill

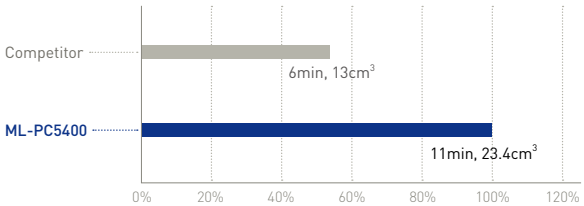
WORKPIECE



TOOL LIFE RESULT

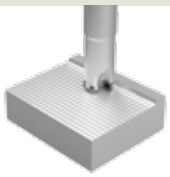
Holder		AMS3032HS
Insert		APMT1604PDER-ML
Grade		PC5400
Machine		HYUNDAI WIA VC750M, BT50
Workpiece		Inconel 718(HRC 38~40)
Cutting Speed		vc = 60(m/min)
Feed Rate		fz = 0.06(mm/t)
Depth		ap = 10.0(mm), ae = 2.0(mm)
Cutting Fluid	Method	Wet
	Pressure	30bar
	Concentration	6~8%

[Tool Life]

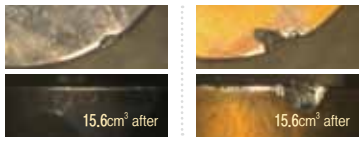


FMR P-positive

WORKPIECE

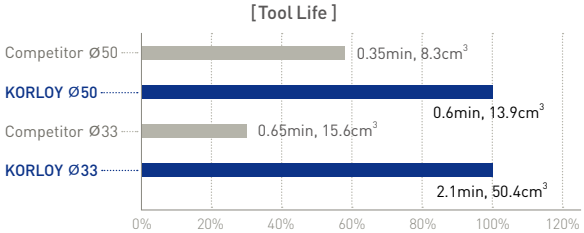


TOOL LIFE RESULT



Holder		FMRS4033HRP-3L32 (Ø33, 3Flute, 250L)	FMRCM4050HRP-4 (Ø50, 4Flute, 250L)
Insert		RPMW1204M0S1	RPMW1204M0S1
Grade		PC5300	PC5300
Workpiece		Inconel 718(HRC 38~40)	Inconel 718(HRC 38~40)
Cutting Speed		vc = 40(m/min)	vc = 40(m/min)
Feed Rate		fz = 0.3(mm/t)	fz = 0.6(mm/t)
Depth		ap = 1(mm), ae = 20(mm)	ap = 1(mm), ae = 20(mm)
Cutting Fluid	Method	Wet	Wet
	Pressure	30bar	30bar
	Concentration	6~8%	6~8%

[Tool Life]

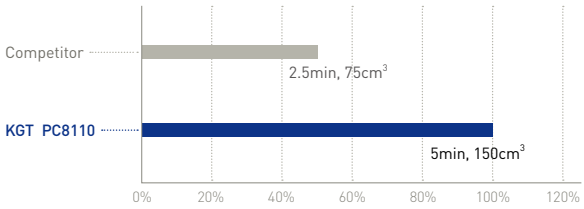


KGT

WORKPIECE	TOOL LIFE RESULT

Holder		KGEHR25250-4-T15
Insert		KGMN400-08-T
Grade		PC8110
Workpiece		Inconel 718(HRC 38~40)
Cutting Speed		vc = 60(m/min)
Feed Rate		fn = 0.1(mm/rev)
Depth		ap = 5.0(mm)
Cutting Fluid	Method	Wet
	Pressure	10bar
	Concentration	6~8%

[Tool Life]

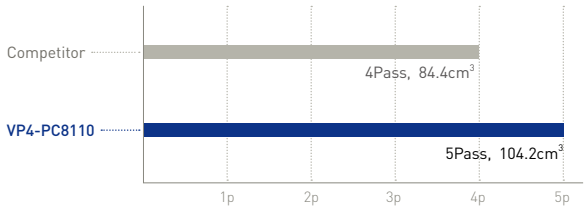


VP4 Chip Breaker

WORKPIECE	TOOL LIFE RESULT

Holder		DCLNR2525-M12
Insert		CNMG120408-VP4
Grade		PC8110
Workpiece		Inconel 718(HRC 38~40)
Cutting Speed		vc = 40(m/min)
Feed Rate		fn = 0.35(mm/rev)
Depth		ap = 3.0(mm)
Cutting Fluid	Method	Wet
	Pressure	10bar
	Concentration	6~8%

[Tool Life]



Titanium

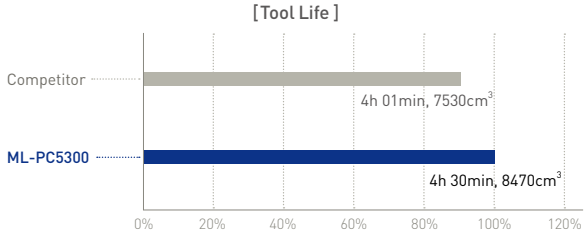
Alpha Mill

WORKPIECE

TOOL LIFE RESULT

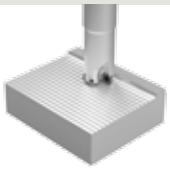
Holder		BT50-AM3063057-4(Multi edge)
Insert		APMT1604PDER-ML
Grade		PC5300
Machine		MAZAK NEXUS6800-11
Workpiece		Ti-6Al-4V(HRC45~47)
Cutting Speed		vc = 40(m/min)
Feed Rate		fz = 0.1(mm/t)
Depth		ap = 50.0(mm), ae = 10.0(mm)
Cutting Fluid	Method	Wet
	Pressure	30bar
	Concentration	6~8%

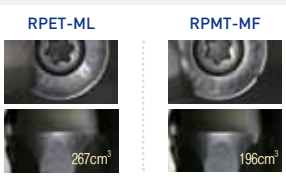
[Tool Life]



FMR P-positive

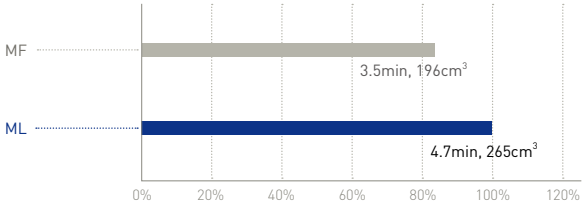
WORKPIECE	TOOL LIFE RESULT





Holder		FMRCM4050HRP-5 (Ø50, 5Flute)
Insert		RPMT1204M0E-MF, RPCT1204M0-ML RPET1204M0E-ML
Grade		PC5300
MCT		HYUNDAI WIA VC750M, BT50
Workpiece		Ti-6Al-4V(HRC45~47)
Cutting Speed		vc = 60(m/min)
Feed Rate		fz = 0.5(mm/t)
Depth		ap = 1.7mm, ae = 35mm
Cutting Fluid	Method	Wet
	Pressure	30bar
	Concentration	6~8%

[Tool Life]

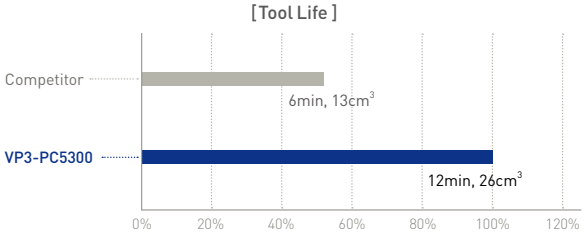


VP Chip Breaker

WORKPIECE	TOOL LIFE RESULT

Holder		Turning insert
Insert		RNMG190600-VP3
Grade		PC5300
Workpiece		Ti829(HRC45~47)
Cutting Speed		vc = 35~40(m/min)
Feed Rate		fn = 0.4(mm/rev)
Depth		ap = 2~4.5mm
Cutting Fluid	Method	Wet
	Pressure	10bar
	Concentration	6~8%

[Tool Life]



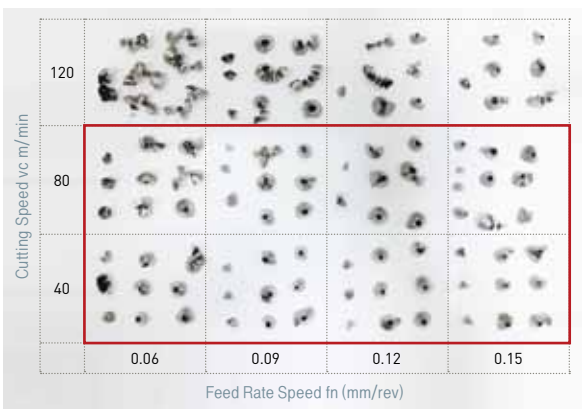
KING DRILL

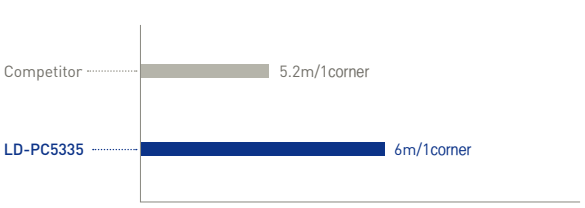
WORKPIECE

TOOL LIFE RESULT

Holder		K3D20025-07
Insert		SPMT07T208-LD XOMT07T205-LD
Grade		PC5335
Workpiece		Ti-6Al-4V(HRC45~47)
Cutting Speed		vc = 60(m/min)
Feed Rate		fn = 0.06(mm/rev)
Depth		ap = 50mm
Cutting Fluid	Method	Wet
	Pressure	30bar
	Concentration	6~8%

LD C/B Chip map



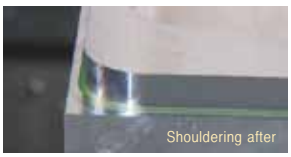


Aluminum

Alpha-Mill, Pro-X & Pro-L Mill

WORKPIECE

SURFACE ROUGHNESS



Holder		Pocketing : AMS3032HS(Ø32) Shouldering : PALS040HR-3S32(Ø40)
Insert		Pocketing : APMT1604PDFR-MA Shouldering : LXET2504PEFR-40-MA
Grade		H01
Workpiece		A6061P (HB170~195)
Cutting Speed		Pocketing : vc = 700(m/min) Shouldering : vc = 800(m/min)
Feed Rate		Pocketing : fz = 0.3(mm/t) Shouldering : fz = 0.06(mm/t)
Depth		Pocketing : ap = 15mm, ae = 3mm Shouldering : ap = 20mm, ae = 5mm
Cutting Fluid	Method	Wet
	Pressure	30bar
	Concentration	6~8%

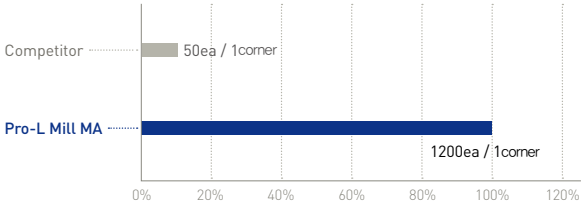
Roughing	Medium	Finishing
		
Alpha Mill APMT-MA 06~18mm	Pro-X XEKT-MA 19~25mm	Pro-L LXET-MA 25~34mm

Pro-L Mill

WORKPIECE

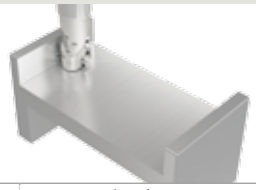
Holder		PALS050HR-3S32(Ø50)
Insert		LXET340532PEFR-50-MA
Grade		H01
Workpiece		A6061P(HB170~195)
Cutting Speed		vc = 1000(m/min)
Feed Rate		fz = 0.1(mm/t)
Depth		ap = 30mm, ae=5mm
Cutting Fluid	Method	Wet
	Pressure	30bar
	Concentration	6~8%

[Tool Life]



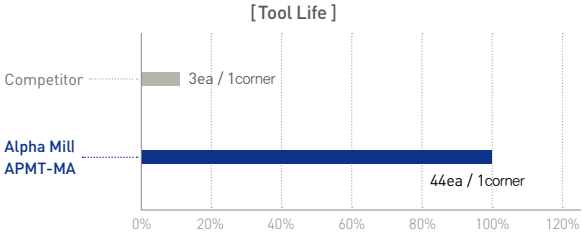
Alpha Mill(APMT-MA)

WORKPIECE



Holder		AMS2032M(Ø32)
Insert		APMT1604PDFR-MA
Grade		H01
Workpiece		AC4CH / A6061P(HB55~80)
Cutting Speed		vc = 350(m/min)
Feed Rate		fz = 0.258(mm/t)
Depth		ap = 15mm, ae = 3mm
Cutting Fluid	Method	Wet
	Pressure	30bar
	Concentration	6~8%

[Tool Life]



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