General Data Model: **Operating Data SPINJET-GREEN LINE** 20 - 40 Operating range of coolant pressure [bar] 10-20 Operating range of coolant flow rate [I/min] Rotational spindle speed [rpm]* 35000-55000 Drilling: 0.5 - 4 Optimum cutting tool diameter [mm] Milling: 1.5 - 3.5 Maximum tool shank diameter [mm]

- **Notes** Rotational spindle speed is based on coolant pressure and flow rate
- Coolant pressure is measured from the spindle inlet



New Shaft Lock Mechanism

Shaft lock flag key has been replaced by a "GJET" shaft lock key

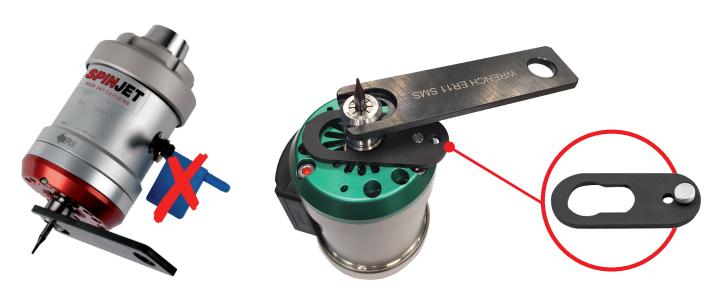


Fig.1. Shaft lock in old SPINJET spindle

Fig.2. Shaft lock in new SPINJET-GREEN LINE

Machine tool requirements for using SPINJET-GREEN LINE spindles

- 1. Coolant flow through the machine spindle
- 2. Min. coolant pressure at the spindle outlet: 20 bar (290 psi).
- 3. Max. coolant pressure at the spindle outlet: 40 bar (580 psi).
- 4. Min. flow rate: 12 l/min (3.17 gal/min.).
- 5. Coolant filtration level: max. 100 µm.

Using Precision ER11 Collets

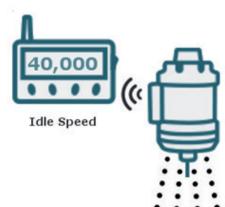
When using ER11 spring collets, it is recommended to use only high quality precise collets that are engineered for maximum accuracy and tool life.



Max. collet runout (TIR) - 5 μm

Follow the 10% Rule:

As the cutting tool enters the workpiece, RPMs will be reduced due to load. The GREEN LINE Jet Spindle RPM value when working should not drop more than 10% of the RPM value registered at 'idle speed'.





Cutting Conditions

- 1. Monitoring RPMs during GREEN LINE Jet Spindle operation is critical, to ensure optimum machining conditions and to aviod damage.
- 2. Cutting speed may be influenced by material hardness, workpiece topography and/or cutting tool geometry. Refer to cutting tool manufacturer's documentation.
- 3. Dramatic RPM fluctuations during GREEN LINE Jet Spindle operation can indicate problems such as inadequate coolant pressure or a broken cutting tool.

Jet Spindle Operating Guidelines

Material	Cutting Tool Dia.		Z (Teeth)	Ap - Depth of Cut		Ae - Width of Cut		Coolant Pressure	RPM	Fz per tooth	
	mm	inch	(1111 /	mm	inch	mm	inch	(bar)		mm	inch
SAE 4340 (24-25HRC)	End Mill Ø 1.0	End Mill Ø .040	2	0.1	.004	1.0	0.040	40	47,000	0.04	.0015
SAE 4340 (42-45HRC)	End Mill Ø 2.0	End Mill Ø .080	2	0.1	.004	2.0	0.080	40	47,000	0.007	.0003
SAE 4340 (24-25HRC)	End Mill Ø 2.0	End Mill Ø .080	2	0.1	.004	2.0	0.080	40	47,000	0.02	.0008
SAE 4340 (24-25HRC)	End Mill Ø 2.0	End Mill Ø .080	2	0.1	.004	2.0	0.080	40	47,000	0.02	.0008
SAE 4340 (24-25HRC)	End Mill Ø 3.0	End Mill Ø .120	4	0.1	.004	3.0	0.120	40	47,000	0.002	.00008
SAE 316L 130-136 HB	End Mill Ø 1.0	End Mill Ø .040	2	0.1	.004	1.0	0.040	40	47,000	0.03	.0001
SAE 316L 130-136 HB	End Mill Ø 2.0	End Mill Ø .080	2	0.1	.004	2.0	0.080	40	47,000	0.02	.0008
SAE 316L 130-136 HB	End Mill Ø 3.0	End Mill Ø .120	4	0.1	.004	3.0	0.120	40	47,000	0.005	.0002
Aluminum SI 9% 30 HB	End Mill Ø 1.0	End Mill Ø .040	3	0.1	.004	1.0	0.040	40	47,000	0.015	.0006
Aluminum SI 9% 30 HB	End Mill Ø 2.0	End Mill Ø .080	2	0.3	.012	2.0	0.080	40	47,000	0.02	.0008
Aluminum SI 9% 30 HB	End Mill Ø 3.0	End Mill Ø .120	3	0.2	.008	3.0	0.120	40	47,000	0.025	.0010
SAE H13 (40-42Hrc)	End mill Ø 1.5	End mill Ø .059	2	0.3	.012	0.3	.012	40	47,000	0.008	.0003
St 52-3 (A 36)	End mill Ø 1.0	End mill Ø .040	2	0.5	.020	0.1	.004	40	47,000	0.005	.0002
SAE 4340 (24-25HRC)	Ball nose Ø 1.0	Ball nose Ø .040	2	0.5	.020	0.03	.0012	40	47,000	0.03	.0012
SAE 4340 (24-25HRC)	Ball nose Ø 3.0	Ball nose Ø .120	2	0.5	.020	0.05	.002	40	47,000	0.07	.0027
SAE 316L 130-136 HB	Ball nose Ø 3.0	Ball nose Ø .120	2	0.5	.020	0.05	.002	40	47,000	0.04	.0015
Aluminum SI 9% 30 HB	Ball nose Ø 1.0	Ball nose Ø .040	3	0.5	.020	0.06	.0024	40	47,000	0.03	.012
Aluminum SI 9% 30 HB	Ball nose Ø 3.0	Ball nose Ø .120	3	1.5	.060	0.05	.002	40	47,000	0.03	.012
	SAE 4340 (42-45HRC) SAE 4340 (24-25HRC) SAE 4340 (24-25HRC) SAE 4340 (24-25HRC) SAE 316L 130-136 HB SAE 316L 130-136 HB SAE 316L 130-136 HB Aluminum SI 9% 30 HB Aluminum SI 9% 30 HB SAE H13 (40-42Hrc) St 52-3 (A 36) SAE 4340 (24-25HRC) SAE 4340 (24-25HRC) SAE 316L 130-136 HB Aluminum SI 9% 30 HB	Material SAE 4340 (24-25HRC) End Mill Ø 1.0 SAE 4340 (42-45HRC) End Mill Ø 2.0 SAE 4340 (24-25HRC) End Mill Ø 2.0 SAE 4340 (24-25HRC) End Mill Ø 3.0 SAE 316L 130-136 HB End Mill Ø 1.0 SAE 316L 130-136 HB End Mill Ø 2.0 SAE 316L 130-136 HB End Mill Ø 3.0 SAE 316L 130-136 HB End Mill Ø 3.0 Aluminum SI 9% 30 HB End Mill Ø 1.0 Aluminum SI 9% 30 HB End Mill Ø 3.0 SAE H13 (40-42Hrc) End mill Ø 1.5 St 52-3 (A 36) End mill Ø 1.0 SAE 4340 (24-25HRC) Ball nose Ø 1.0 SAE 316L 130-136 HB Ball nose Ø 3.0 Aluminum SI 9% 30 HB Ball nose Ø 3.0 Ball nose Ø 3.0 Ball nose Ø 3.0 Ball nose Ø 3.0 Ball nose Ø 3.0 Ball nose Ø 3.0 Ball nose Ø 3.0	Material mm inch SAE 4340 (24-25HRC) End Mill Ø 1.0 End Mill Ø .040 SAE 4340 (42-45HRC) End Mill Ø 2.0 End Mill Ø .080 SAE 4340 (24-25HRC) End Mill Ø 2.0 End Mill Ø .080 SAE 4340 (24-25HRC) End Mill Ø 3.0 End Mill Ø .080 SAE 316L 130-136 HB End Mill Ø 1.0 End Mill Ø .040 SAE 316L 130-136 HB End Mill Ø 2.0 End Mill Ø .080 SAE 316L 130-136 HB End Mill Ø 3.0 End Mill Ø .080 Aluminum SI 9% 30 HB End Mill Ø 1.0 End Mill Ø .040 Aluminum SI 9% 30 HB End Mill Ø 2.0 End Mill Ø .080 Aluminum SI 9% 30 HB End Mill Ø 3.0 End Mill Ø .080 SAE H13 (40-42Hrc) End mill Ø 1.5 End mill Ø .059 SAE 4340 (24-25HRC) Ball nose Ø 1.0 Ball nose Ø .040 SAE 4340 (24-25HRC) Ball nose Ø 3.0 Ball nose Ø .120 SAE 316L 130-136 HB Ball nose Ø 3.0 Ball nose Ø .120 SAE 316L 130-136 HB Ball nose Ø 3.0 Ball nose Ø .040	Material mm inch SAE 4340 (24-25HRC) End Mill Ø 1.0 End Mill Ø .040 2 SAE 4340 (42-45HRC) End Mill Ø 2.0 End Mill Ø .080 2 SAE 4340 (24-25HRC) End Mill Ø 2.0 End Mill Ø .080 2 SAE 4340 (24-25HRC) End Mill Ø 3.0 End Mill Ø .080 2 SAE 4340 (24-25HRC) End Mill Ø 1.0 End Mill Ø .040 2 SAE 316L 130-136 HB End Mill Ø 1.0 End Mill Ø .040 2 SAE 316L 130-136 HB End Mill Ø 3.0 End Mill Ø .080 2 SAE 316L 130-136 HB End Mill Ø 1.0 End Mill Ø .040 3 Aluminum SI 9% 30 HB End Mill Ø 1.0 End Mill Ø .040 3 Aluminum SI 9% 30 HB End Mill Ø 3.0 End Mill Ø .080 2 Aluminum SI 9% 30 HB End mill Ø 1.5 End mill Ø .080 2 SAE 4340 (24-25HRC) End mill Ø 1.5 End mill Ø .059 2 SAE 4340 (24-25HRC) Ball nose Ø 1.0 Ball nose Ø .040 2 SAE 316L 130-136 HB Ball nose Ø 3.0 Ball nose Ø .120 2	Material Editing 1001 bla. Z (Teeth) of mm SAE 4340 (24-25HRC) End Mill Ø 1.0 End Mill Ø .040 2 (Teeth) mm SAE 4340 (24-25HRC) End Mill Ø 2.0 End Mill Ø .080 2 (0.1) SAE 4340 (24-25HRC) End Mill Ø 2.0 End Mill Ø .080 2 (0.1) SAE 316L 130-136 HB End Mill Ø 1.0 End Mill Ø .040 2 (0.1) SAE 316L 130-136 HB End Mill Ø 3.0 End Mill Ø .080 2 (0.1) SAE 316L 130-136 HB End Mill Ø 1.0 End Mill Ø .040 3 (0.1) Aluminum SI 9% 30 HB End Mill Ø 1.0 End Mill Ø .080 2 (0.3) SAE H13 (40-42Hrc) End mill Ø 1.0 End mill Ø .080 2 (0.3) SAE 4340 (24-25HRC) Ball nose Ø 1.0 Ball nose Ø .040 2 (0.5) SAE 4340 (24-25HRC) Ba	Material Cutting 1001 Pta. Z (Teeth) of Cut mm mm inch SAE 4340 (24-25HRC) End Mill Ø 1.0 End Mill Ø .040 2 0.1 .004 SAE 4340 (24-25HRC) End Mill Ø 2.0 End Mill Ø .080 2 0.1 .004 SAE 4340 (24-25HRC) End Mill Ø 2.0 End Mill Ø .120 4 0.1 .004 SAE 316L 130-136 HB End Mill Ø 1.0 End Mill Ø .040 2 0.1 .004 SAE 316L 130-136 HB End Mill Ø 3.0 End Mill Ø .080 2 0.1 .004 SAE 316L 130-136 HB End Mill Ø 3.0 End Mill Ø .080 2 0.1 .004 Aluminum SI 9% 30 HB End Mill Ø 1.0 End Mill Ø .040 3 0.1 .004 Aluminum SI 9% 30 HB End Mill Ø 3.0 End Mill Ø .080 2 0.3 .012 SAE 4340 (24-25HRC) End mill Ø 3.0 End mill Ø .040 3 0.2 .00	Material Cutting 1607 Dra. Z (Teeth) of Cut Cutting 1607 Dra. SAE 4340 (24-25HRC) End Mill Ø 1.0 End Mill Ø .040 2 (Teeth) mm inch inch	Material mm inch mm	Naterial Not bia. Not bia.	Material Material Mill Old Old	Material Cut mg inch z (Teeth) of Cut mg Cut mg Pressure (bar) RPM Feet mg SAE 4340 (24-25HRC) End Mill Ø 1.0 End Mill Ø 0.040 2 0.1 .004 1.0 0.040 47,000 0.04 SAE 4340 (24-25HRC) End Mill Ø 2.0 End Mill Ø 0.80 2 0.1 .004 2.0 0.080 40 47,000 0.007 SAE 4340 (24-25HRC) End Mill Ø 2.0 End Mill Ø 0.80 2 0.1 .004 2.0 0.080 40 47,000 0.02 SAE 4340 (24-25HRC) End Mill Ø 2.0 End Mill Ø 0.80 2 0.1 .004 2.0 0.080 40 47,000 0.02 SAE 4340 (24-25HRC) End Mill Ø 3.0 End Mill Ø .120 4 0.1 .004 3.0 0.120 40 47,000 0.02 SAE 316L 130-136 HB End Mill Ø 1.0 End Mill Ø .080 2 0.1 .004 1.0 0.040 47,000 0.02 SAE 316L 130-136 HB End Mill Ø 1.0

General instructions for storage:

The **SPINJET-GREEN LINE** spindles do not require specific periodic maintenance; however the following instructions should be followed before storing a spindle:

- 1. Clean the spindle by air blowing for 10-15 seconds.
- 2. Max. air pressure for cleaning is 2 bar (30 psi). The rotational speed during cleaning must not exceed 50000 rpm.
- 3. After cleaning, disconnect the spindle from the display device.
- 4. Place the spindle in its original packaging box and store it in the appropriate place.

*** New Warranty Policy

Warranty policy for new SPINJET-HPC LINE spindles: At least 300 hours of use or 12 months from the date of invoice, whichever comes first.

Warranty policy for repaired / refurbished SPINJET-HPC LINE spindles:

At least 200 hours of use or 6 months from the date of invoice, whichever comes first.

