

Automotive Stabilizer Bar Machining

Kira KN40Va 1200mm Long Travel Vertical CNC Production Center

Key Features

- CNC machine logic, part programs, hydraulic servo systems, electronic touch probes, and high volume chip removal system have been engineered into an extremely complicated yet simple to operate production system.

Stabilizer Bar



PRODUCTION CHALLENGE:

- Customer required a CNC solution.
- Part - (Forged Stabilizer Bar) long odd shaped part.
- All operations to be complete in one set-up and clamping.
- Hole location must be in the middle of the forged flat at each end; the machine will need to compensate for variations in part dimensions caused by the forging process.
- Cycle time required is 59 seconds per part.
- Machining is required at both ends of a long part at compound angles.

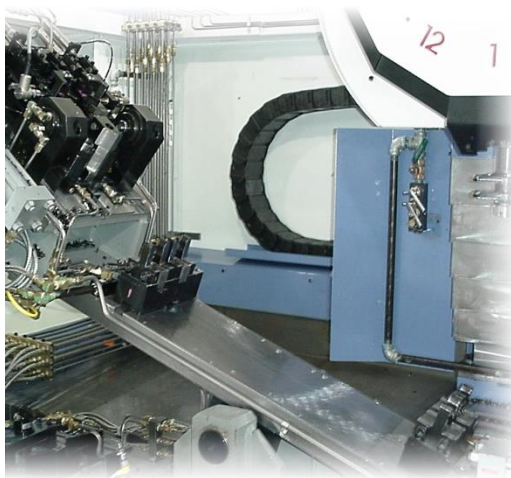


SOLUTION:

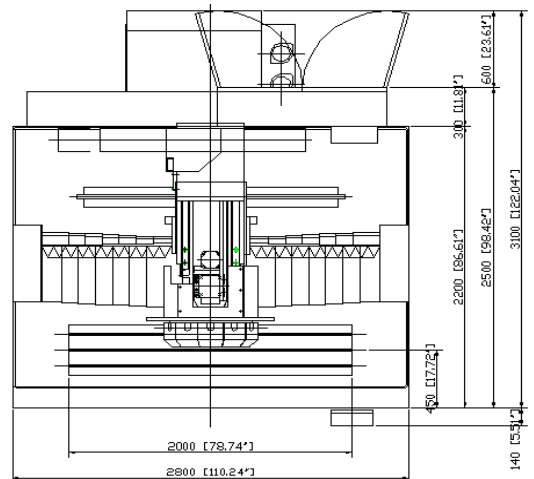
- Kira KN40Va 1200mm "X" axis CNC traveling column machine.
- (2) part fixture which automatically tilts to bring parts into proper attitude while traveling column moves the length of the "X" axis to attack the opposite end of the parts.
- Dual contact tool holder used to support straddle mill.
- Touch probes find the outside surface of both ends of (2) parts. The centers are instantly calculated and the machine drills the holes at the proper location.

RESULTS:

- Heavy straddle milling, tapered drilling and reaming, on time, in time and within 1.67CPK quality. To date (3) repeat orders have followed.



"Small Footprint"



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MACHINE SPECIFICATION	KN 40Va-1200	KN 40Vb-1200	KN 40Va-2000	KN 40Vb-2000
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TRAVEL

Long Bed

X axis	47.2" (1200mm)	47.2" (1200mm)	78.7" (2000mm)	78.7" (2000mm)
Y axis	13.8" (350mm)	13.8" (350mm)	13.8" (350mm)	13.8" (350mm)
Z axis	15.8" (400mm)	15.8" (400mm)	15.8" (400mm)	15.8" (400mm)

Dual Zone (each zone)

X axis	15.8" (400mm)	n/a	31.4" (800mm)	23." (600mm)
Y axis	13.8" (350mm)	n/a	13.8" (350mm)	13.8" (350mm)
Z axis	15.8" (400mm)	n/a	15.8" (400mm)	15.8" (400mm)

SPINDLE POWER

Standard	6,000RPM - 10HP	8,000RPM - 10HP	6,000RPM - 10HP	8,000RPM - 10HP
Optional	n/a	8,000RPM - 15HP	n/a	8,000RPM - 15HP
Optional	10,000RPM - 7.5HP	12,000RPM - 10HP	12,000RPM - 7.5HP	12,000RPM - 10HP
Optional	n/a	12,000RPM - 15HP	n/a	12,000RPM - 15HP

TABLE

Working area	78.7"x15.8" (2000mmX400mm)	78.7"x15.8" (2000mmX400mm)	110.2"x15.8" (2800mmX400mm)	78.7"x15.8" (2000mmX400mm)
Maximum table load capacity	1100 lbs (500kg)	1100 lbs (500kg)	1100 lbs (500kg)	1100 lbs (500kg)

FEED RATE

Rapid traverse

X axis	1889 IPM (48,000mm)	1889 IPM (48,000mm)	1417 IPM (36,000mm)	1417 IPM (36,000mm)
Y axis	1889 IPM (48,000mm)	1889 IPM (48,000mm)	1417 IPM (36,000mm)	1417 IPM (36,000mm)
Z axis	1417 IPM (36,000mm)	1889 IPM (48,000mm)	1417 IPM (36,000mm)	1417 IPM (36,000mm)

Cutting feed rate

X axis	394 IPM (10,000mm)	394 IPM (10,000mm)	394 IPM (10,000mm)	394 IPM (10,000mm)
Y axis	394 IPM (10,000mm)	394 IPM (10,000mm)	394 IPM (10,000mm)	394 IPM (10,000mm)
Z axis	394 IPM (10,000mm)	394 IPM (10,000mm)	394 IPM (10,000mm)	394 IPM (10,000mm)

THROAT DIMENSIONS

Spindle nose to table top	5.9"-21.7" (150mmX550mm)	5.9"-21.7" (150mmX550mm)	5.9"-21.7" (150mmX550mm)	5.9"-21.7" (150mmX550mm)
Cutting center line to column surface	16.9" (430mm)	16.9" (430mm)	16.9" (430mm)	16.9" (430mm)

TOOL SHANK

Standard	CT40	CT40	CT40	CT40
Optional	BT40	BT40	BT40	BT40
Optional	n/a	HSK	n/a	HSK

TOOL CHANGER

Number of tools	12	20	12	20
Optional	14	N/A	14	N/A
Tool selection	Random	Random	Random	Random
Tool change time (T-T)	1.6sec	1.2sec	1.6sec	1.2sec
Tool change time (C-C)	3.2sec	2.8sec	3.2sec	2.8sec
Maximum tool diameter	3.9" (100mm)	3.9" (100mm)	3.9" (100mm)	3.9" (100mm)
Maximum tool length	9.8" (250mm)	9.8" (250mm)	9.8" (250mm)	9.8" (250mm)
Maximum tool weight	8.8 lbs (4kg)	11 lbs (5kg)	8.8 lbs (4kg)	11 lbs (5kg)

ACCURACY

Positioning accuracy (X, Y & Z axis)	0.0002" (0.005mm)	0.0002" (0.005mm)	0.0002" (0.005mm)	0.0002" (0.005mm)
Positioning repeatability (X, Y & Z axis)	±0.0001" (0.003mm)	±0.0001" (0.003mm)	±0.0001" (0.003mm)	±0.0001" (0.003mm)

All specifications are subject to change without notice.

180 Degree Pallet
Changer



Fixed Table
Non-Pallet Changer

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