

# Automotive Hub Machining - Transfer System

*Kira KN40Vb-500 Non-APC Vertical CNC Production Center*

## Key Feature

- Automatic gauging

## Automotive Hub



## PRODUCTION CHALLENGE:

- Add (3) drilled and tapped holes to an existing part (front hub)
- Cycle time must be under 40 seconds
- System must confirm that tapped holes are present and to depth and size; Manual or visual inspection is out of the question; This is the final operation before vehicle assembly

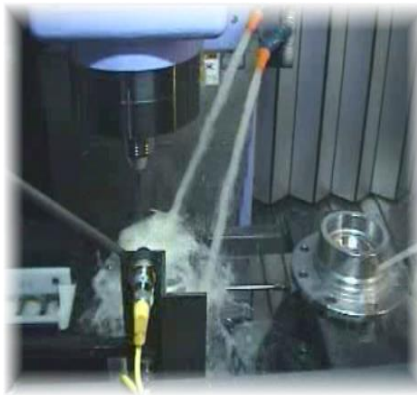


## SOLUTION:

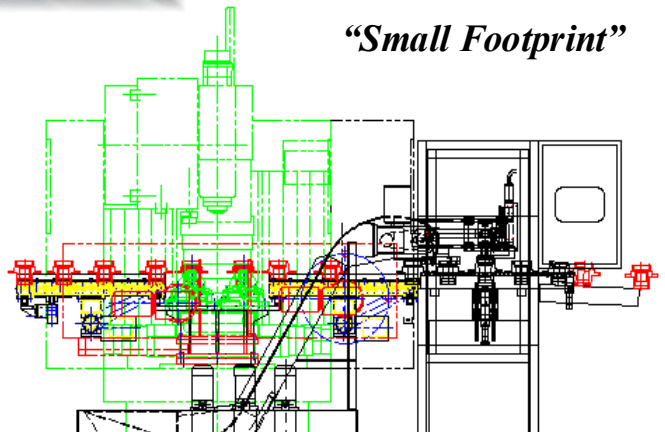
- Kira KN40Vb-500 Traveling Column Vertical CNC Production Center
- Midstates lift and carry transfer system
- Electronic probing gauge station which checks all features of tapped holes

## RESULTS:

- Unmanned automatic cell which processes (2) parts at a time in 39 seconds including transfer in to station, clamp, drill, tap, unclamp, and transfer out of station.



*"Small Footprint"*



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MACHINE SPECIFICATIONS	Non-Pallet Changers		Automatic Pallet Changers	
	KN40Va-500S	KN40Vb-500S	KN40Va-500S-2APC	KN40Vb-500S-2APC

### TRAVEL

X axis stroke	19.7" (500mm)	19.7" (500mm)	19.7" (500mm)	19.7" (500mm)
Y axis stroke	13.8" (350mm)	13.8" (350mm)	13.8" (350mm)	13.8" (350mm)
Z axis stroke	15.8" (400mm)	15.8" (400mm)	15.8" (400mm)	15.8" (400mm)

### SPINDLE POWER

Standard	6,000RPM-10HP	8,000RPM-10HP	6,000RPM-10HP	8,000RPM-10HP
Optional	10,000RPM-10HP	12,000RPM-15HP	10,000RPM-10HP	12,000RPM-15HP

### TABLE / PALLET CHANGER

	Fixed Table	Fixed Table	Each Pallet	Each Pallet
Working area	27.6"x15.8"	27.6"x15.8"	23.6"x13.8"	23.6"x13.8"
Pallet change time	n/a	n/a	3sec	3sec
Maximum table load capacity	1100 lbs.	1100 lbs.	220 lbs.	220 lbs.
Pallet Rotation	n/a	n/a	180°	180°

### FEED RATE

#### Rapid traverse

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

#### 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)

### Machine Dimensions

Length x Height x Width	118.1x70.0x102.8	118.1x68.9x99.8	135.5x70.0x102.8	135.8x68.0x99.8
Weight	6,000 lbs.	6,000 lbs.	8,000 lbs.	8,000 lbs.

### TOOL SHANK

Standard	CT40	CT40	CT40	CT40
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### TOOL CHANGER

	12	20	12	20
Number of tools	12	20	12	20
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)	8.8 lbs (4kg)	8.8 lbs (4kg)	8.8 lbs (4kg)

### 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.



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