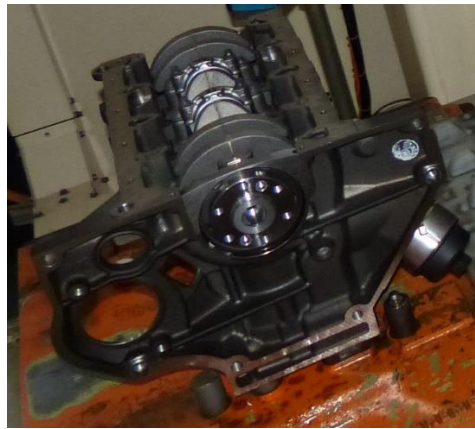


Subject to prior Sale we offer by Order of OPEL:

## Automatic and Manual Assembly Cells for 4-Cylinder Engines including of JOHANN A. KRAUSE, FANUC Robots and other Equipment



### The Line includes the following Equipment:

| OP  | Unit             | Decsription         | Make               | Model      | YoM  | Operation                                                                |
|-----|------------------|---------------------|--------------------|------------|------|--------------------------------------------------------------------------|
| 100 | Test machine     | Measuring Equipment | Johann A Krause HB |            | 2004 | Intake module LT (JWF MFL460 with 2 racks (12+16 bar)                    |
| 110 | Accessory        | Manipulator         | DEMAG              | PKV1-V1-F4 | 1992 |                                                                          |
| 120 | Accessory        | Manipulator         | DEMAG              | PKV1-V1-F4 | 1992 |                                                                          |
| 130 | Accessory        | Manipulator         | DEMAG              | PKV1-V1-F4 | 1992 |                                                                          |
| 140 | Accessory        | Manipulator         | DEMAG              | PKV1-V1-F4 | 1992 |                                                                          |
| 200 | Assembly machine | Loader              | Johann A Krause HB |            | 1992 | Crankshaft puffer with 800 places + transfer to assy line                |
| 280 | Washing machine  | Machine Equipment   | Johann A Krause HB |            | 1992 | Pallet washing                                                           |
| 290 | Assembly machine | Machine Equipment   | Johann A Krause HB |            | 1992 | Hot air station for piston+conrod assembly                               |
| 300 | Transfer machine | Manipulator         | Johann A Krause HB |            | 1992 | CB manipulator                                                           |
| 300 | Transfer machine | Machine Equipment   | Johann A Krause HB |            | 1992 | Transfer CB from CB line to ASSY line (+ underground line with elevator) |

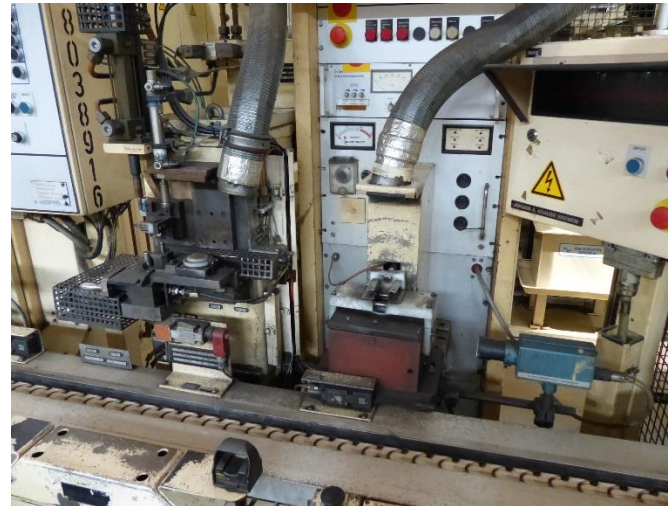
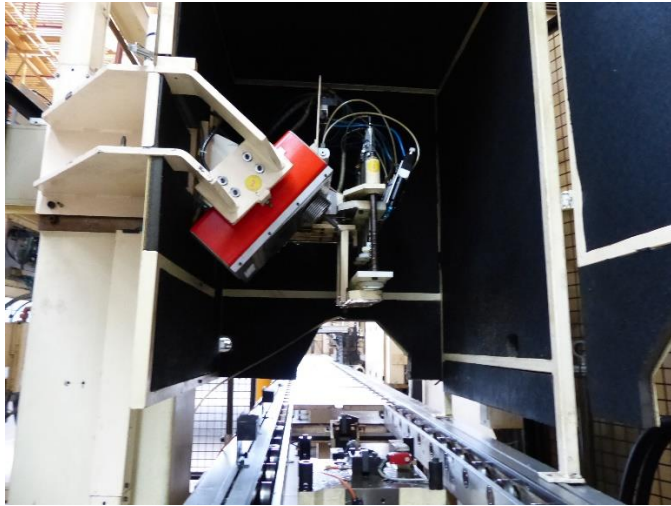
|       |                   |                     |                    |                                           |      |                                                                         |
|-------|-------------------|---------------------|--------------------|-------------------------------------------|------|-------------------------------------------------------------------------|
| 320   | Engraving Machine | Machine Equipment   | Johann A Krause HB |                                           | 1992 | Engrave engine number to CB                                             |
| 330   | Press machine     | Press               | Johann A Krause HB |                                           | 1996 | Sleeve press + dispenser                                                |
| 350   | Assembly machine  | Machine Equipment   | Johann A Krause HB |                                           | 1992 | Insert piston into CB (4 grippers) + ram air piston ring test           |
| 360   | Assembly machine  | Machine Equipment   | Johann A Krause HB |                                           | 1992 | Turn CB 180 degrees                                                     |
| 370   | Press machine     | Press               | Johann A Krause HB |                                           | 2001 | Sleeve press + dispenser                                                |
| 380   | fastening machine | Machine Equipment   | Johann A Krause HB |                                           | 1992 | Release + put aside main bearing caps (10 grippers + 10 Bosch Spindles) |
| 400   | Assembly machine  | Machine Equipment   | Johann A Krause HB |                                           | 1992 | Put crankshaft into CB + oiling all bearings                            |
| 420   | fastening machine | Machine Equipment   | Johann A Krause HB |                                           | 1992 | Tighten main bearing caps (11 Bosch Spindles)                           |
| 440   | fastening machine | Machine Equipment   | Johann A Krause HB |                                           | 1992 | Tighten conrod caps (8 Bosch Spindles)                                  |
| 445   | Test machine      | Test Equipment      | Johann A Krause HB |                                           | 2001 | Torque to turn station plus 2 electric motors                           |
| 450   | Press machine     | Press               | Johann A Krause HB |                                           | 2004 | Crankshaft symmering take out from storage and press in                 |
| 455   | fastening machine | Machine Equipment   | Johann A Krause HB |                                           | 2001 | Tighten pump module and idler (6 Bosch Spindles)                        |
| 460   | Loctite machine   | Sealing Equipment   | Johann A Krause HB |                                           | 1992 | Apply loctite to 5th bearing + 11 unused Bosch Spindles                 |
| 465   | Test machine      | Measuring Equipment | Johann A Krause HB |                                           | 2016 | Pump module symmering LT (JWF MPS200) + oiling CR symmering             |
| 480   | fastening machine | Machine Equipment   | Johann A Krause HB |                                           | 2004 | Tighten oil cooler module (5 Bosch Spindles)                            |
| 495   | Test machine      | Measuring Equipment | Johann A Krause HB |                                           | 2001 | Short block LT (JWF MFL40 with 2 racks)                                 |
| 470.1 | Test machine      | Measuring Equipment | OMRON              | 2x FZ-SC2M Camera + FZ2-505-10 Controller | 2000 | OMRON camera system for checking oil pan loctite                        |
| 470.2 | Loctite machine   | Sealing Equipment   | Johann A Krause HB |                                           | 2000 | Apply loctite to oil pan (2 CNC controlled loctite head)                |
| 475.1 | Transfer machine  | Machine Equipment   | Johann A Krause HB |                                           | 2000 | Transfer oil pan to engine (gripper)                                    |
| 475.2 | fastening machine | Machine Equipment   | Johann A Krause HB |                                           | 2000 | Tighten oil pan screws + dispensing (15 Bosch Spindles)                 |
| 101   | Accessory         | Manipulator         | DEMAG              | DKUN2                                     | 2002 |                                                                         |
| 102   | Accessory         | Manipulator         | DEMAG              | DKUN2                                     | 2002 |                                                                         |
| 103   | Accessory         | Manipulator         | DEMAG              | DKUN2                                     | 2002 |                                                                         |
| 104   | Accessory         | Manipulator         | DEMAG              | DKUN2                                     | 2002 |                                                                         |
| 105   | Accessory         | Manipulator         | DEMAG              | DKUN2                                     | 2002 |                                                                         |
| 106   | Accessory         | Manipulator         | DEMAG              | DKUN2                                     | 2002 |                                                                         |
| 107   | Accessory         | Manipulator         | DEMAG              | DKUN2                                     | 2002 |                                                                         |
| 108   | Accessory         | Manipulator         | DEMAG              | DKUN2                                     | 2002 |                                                                         |
| 109   | Accessory         | Manipulator         | DEMAG              | DKUN2                                     | 2002 |                                                                         |
| 110   | Conveyor          | Conveyor            | Johann A Krause HB |                                           | 1992 | <b>NOT PART OF THE SALE &gt;&gt;&gt; OPEL RE-USE</b>                    |

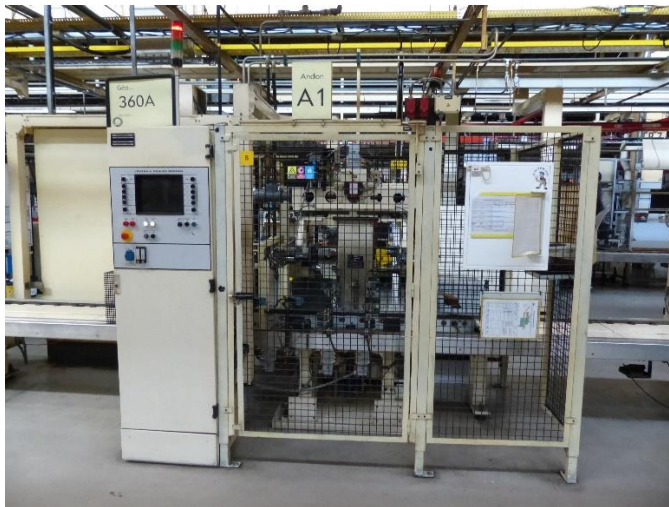
|     |                   |                     |                                |                              |      |                                                                                                        |
|-----|-------------------|---------------------|--------------------------------|------------------------------|------|--------------------------------------------------------------------------------------------------------|
| 120 | Turntable         | Turntable           | Johann A Krause HB             |                              | 1992 | <b>NOT PART OF THE SALE &gt;&gt;&gt; OPEL RE-USE</b>                                                   |
| 130 | Pallet            | Fixtures            | Johann A Krause HB             |                              | 1992 | <b>NOT PART OF THE SALE &gt;&gt;&gt; OPEL RE-USE</b>                                                   |
| 306 | fastening machine | Machine Equipment   | Stanley                        |                              | 2004 | fastening TC screws (9 Stanley Spindles with controller)                                               |
| 309 | Test machine      | Measuring Equipment | OMRON FZ-S camera + FZ3-705-10 | PKV1-V1-F4                   | 2004 |                                                                                                        |
| 500 | Transfer machine  | Machine Equipment   | Johann A Krause HB             |                              | 1992 | Transfer CB from ASSY1 to ASSY2 + underground line with elevator                                       |
| 505 | Test machine      | Test Equipment      | Johann A Krause HB             |                              | 2004 | Torque to turn station + UPS32 for crankshaft signal evaluation                                        |
| 510 | fastening machine | Machine Equipment   | Johann A Krause HB             |                              | 1999 | Flywheel gripper plus fastening (6 bosch Spindles)                                                     |
| 515 | Test machine      | Robot               | COMAU                          | SMART S2                     | 1999 |                                                                                                        |
| 515 | Test machine      | Measuring Equipment | OMRON                          | Camera + FZ3-H705 controller | 2011 | OMRON camera system for checking flywheel and clutc+screws                                             |
| 520 | fastening machine | Machine Equipment   | Johann A Krause HB             |                              | 1999 | Clutch gripper plus fastening (6 bosch indramat spindles)                                              |
| 530 | Dispenser machine | Machine Equipment   | Johann A Krause HB             |                              | 1996 | CH screw dispenser                                                                                     |
| 540 | fastening machine | Machine Equipment   | Johann A Krause HB             |                              | 1992 | CH fastening + camshaft positioning (11 Bosch Spindles)                                                |
| 560 | fastening machine | Machine Equipment   | Johann A Krause HB             |                              | 2004 | VCP fastening (2 Bosch Spindles)                                                                       |
| 570 | fastening machine | Machine Equipment   | Johann A Krause HB             |                              | 1996 | CH cover fastening + old station (21 Bosch Spindles, type change equipment, automatic screw dispenser) |
| 575 | Robot cell        | Robot               | FANUC                          | M710-iC                      | 2014 |                                                                                                        |
| 583 | Test machine      | Measuring Equipment | JWF                            | MFL40                        | 2001 | Long block LT (JFW MFL40 with 2 racks)                                                                 |
| 586 | Test machine      | Measuring Equipment | JWF                            | MFL40                        | 2001 | Long block LT (JFW MFL40 with 2 racks)                                                                 |
| 590 | fastening machine | Machine Equipment   | Johann A Krause HB             |                              | 1992 | Cam wheel + ignition module fastening (4 Bosch Spindles)                                               |
| 590 | Test machine      | Measuring Equipment | OMRON                          | V400                         | 2017 | 2D code checker camera                                                                                 |
| 640 | fastening machine | Machine Equipment   | Johann A Krause HB             |                              | 1992 | Accessory pulley fastening (1 Bosch Spindle)                                                           |
| 710 | Test machine      | Robot               | FANUC                          | M6-i                         | 2002 | Robot, FANUC M6-i                                                                                      |
| 710 | Test machine      | Test Equipment      | Johann A Krause HB             |                              | 2002 | End function test + UPS 32 software for evaluation                                                     |
| 720 | Test machine      | Robot               | FANUC                          | M6-i                         | 2002 | Robot, FANUC M6-i                                                                                      |
| 720 | Test machine      | Test Equipment      | Johann A Krause HB             |                              | 2002 | End function test + UPS 32 software for evaluation                                                     |
| 730 | Test machine      | Robot               | FANUC                          | M6-i                         | 2002 | Robot, FANUC M6-i                                                                                      |
| 730 | Test machine      | Test Equipment      | Johann A Krause HB             |                              | 2002 | End function test + UPS 32 software for evaluation                                                     |
| 740 | Test machine      | Robot               | FANUC                          | M6-i                         | 2004 | Robot, FANUC M6-i                                                                                      |

|       |                     |                     |                    |       |      |                                                          |
|-------|---------------------|---------------------|--------------------|-------|------|----------------------------------------------------------|
| 740   | Test machine        | Test Equipment      | Johann A Krause HB |       | 2004 | End function test + UPS 32 software for evaluation       |
| 760   | fastening machine   | Machine Equipment   | Johann A Krause HB |       | 1999 | fastening catalytic converter screws (10 Bosch Spindles) |
| 550.1 | Accessory           | Manipulator         | Johann A Krause HB |       | 1999 | CH manipulator                                           |
| 550.2 | Transfer machine    | Machine Equipment   | Johann A Krause HB |       | 1999 | Place CH gasket + CH on CB (CNC controlled CH gripper)   |
| 660.1 | Test machine        | Measuring Equipment | JWF                | MPS40 | 2001 | Water chamber LT (JWF MPS40 with one channel)            |
| 660.2 | Oil filling machine | Filling Equipment   | Johann A Krause HB |       | 2001 | Oil filling station                                      |
| 700.1 | Accessory           | Manipulator         | DEMAG              | DKUN2 | 1992 | Manipulator                                              |
| 700.2 | Accessory           | Manipulator         | DEMAG              | DKUN2 | 1992 | Manipulator                                              |

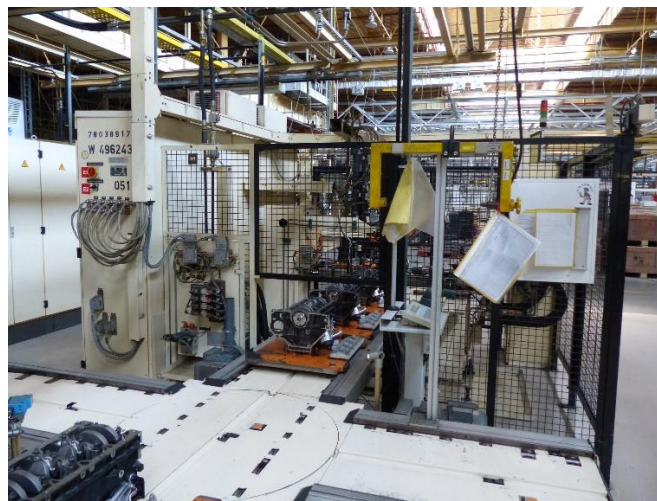
### Fotos of Equipment in Order of Operations:















Contact: [andreas@maynards.com](mailto:andreas@maynards.com)

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