

# START-UP and UPGRADE INSTRUCTIONS

valid for

**SINUMERIK 810/840D**  
**Software Version 06.05.53.00**

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## Requirements for Upgrade

Software version 06.05.53.00 (NCK 51.29.04) is a software update version. The NCK functionality basically corresponds to software version 06.05.33.00 (NCK 51.15.00).

The upgrade instructions for software versions 06.04.15.00 and 06.05.11.00 are the basis for an upgrade to version 06.05.53.00.

The current upgrade instructions are part of the delivery releases in ProdIS Update.

### 1.1 System software 06.05.53.00

Export versions		
Part number	Designation ... on PC card	For hardware
6FC5250-6DY30-5AH0	NCU system software 2 axes	NCU *.4, NCU *.5
6FC5250-6CY30-5AH0	NCU system software 6 axes	NCU *.4, NCU *.5
6FC5250-6BY30-5AH0	NCU system software 12 axes	NCU 572.3/573.2/573.3, NCU *.4, NCU *.5
6FC5250-6AY30-5AH0	NCU system software 31 axes	NCU 572.3/573.2/573.3, NCU *.4, NCU *.5
6FC5450-6AY30-5AH0	CCU system software	CCU 3.*
Standard versions (subject to export restrictions)		
Part number	Designation ... on PC card	For hardware
6FC5250-6CX30-5AH0	NCU system software 6 axes	NCU *.4, NCU *.5
6FC5250-6BX30-5AH0	NCU system software 12 axes	NCU 572.3/573.2/573.3, NCU *.4, NCU *.5
6FC5250-6AX30-5AH0	NCU system software 31 axes	NCU 572.3/573.2/573.3, NCU *.4, NCU *.5
6FC5450-6AX30-5AH0	CCU system software	CCU 3.*

### 1.2 Tools

- 6FC5250-6AY00-3AG0 (...-4AG0) SinuCom NC with SinuCom FFS.  
SinuCom FFS must be used to program the PC card with SW 6.4.13 and higher.
- 6FC5252-6AX21-5AG0 Toolbox V06.05.02 with basic PLC program 06.05.02.  
The basic PLC program of Toolbox 6.3.3 can be used. An upgrade is not mandatory.
- PG/PC with STEP 7 V5.2 and higher and optional online MPI link.  
Current documentation for SW 6 with additional function-related information.

### 1.3 General requirements for upgrade

Before upgrading the NCK ensure that at least 50KB dynamic memory is available for each channel. This can be checked in MD18050 INFO\_FREE\_MEM\_DYNAMIC. If less memory is available, additional memory must be provided by extending MD18210 USER\_MEM\_DYNAMIC. If this is not possible, a more powerful CPU must be used, or unused memory must be released. The machine data, which are identified in the list as D-RAM, are suitable for this purpose.

An additional 50KB of static memory should be available. This can be checked with MD18060 INFO\_FREE\_MEM\_STATIC. If the available memory is insufficient, memory space can be freed by unloading NC programs.

Set machine data 11210 UPLOAD\_MD\_CHANGES\_ONLY = FF, 11220 INI\_FILE\_MODE = 1 or 2.

## 1.4 Data backup

- **NCK**  
Before the NCK is upgraded, a backup must be made to permit recovery of the machine's current database. This is done by creating a series startup file (see general instructions for software upgrades).
- **PLC**  
In addition to the NCK backup, a PLC backup must be created. This backup must be performed with the PLC in Stop state. Set S4 on the NCU module to position 2. This will switch the PLC to the Stop state.

If you want to upgrade the basic PLC program you will need STEP 7. For this, you will have to install the new Toolbox via SETUP. You also need the customer project of this system. The required blocks are transferred from the new Toolbox library to the customer project (or a copy). OBs FC12 and DB 4 must not be transferred (these are blocks for creating new user programs) because they have been modified by the machine manufacturer. After replacing the NCK software, transfer the blocks to the PLC by using STEP 7. A new PLC series startup file must be created.

- **Replacing the software**  
Switch off the control and replace the PC card. The card stays in the control.  
Set switch S3 to position 1, set S4 to position 3 and switch on the control. When it has powered up, the state "7-segment display shows digit 6 / PLC LED PS flashes / PF red" is established. The NC standard machine data have now been loaded. NC and PLC are cleared.  
  
The PLC is started up by switching S4 from position 3 to position 0  
=> S4 in position 3 => S4 in position 0. Now the PLC must switch to Run mode.  
Set S3 to position 0.  
You can check the software version in menu *Diagnosis/Service Displays/Version*.
- **Loading the backups**  
Once the manufacturer password has been set, the NCK backup can be loaded in menu *Services/Series startup/Load startup archive/* after selecting the backup file.  
Once completed, the PLC backup can be loaded.  
Once the PLC backup file has been loaded you must switch the system off and on again so that all components are powered up at the same time.

## 1.5 Upgrading from CCU 1 to CCU 3

- **NC backup CCU 1**  
The drive boot files must be saved in ASCII format so that they can be loaded into the CCU 3. For that, you will need to create an upgrade archive with the setting "\$MN\_UPLOAD\_MD\_CHANGES\_ONLY=FF".
- **Standard startup CCU 3**  
When standard startup of the CCU 3 is complete, be sure to note down the value of MD18210 \$MN\_USER\_MEM\_DYNAMIC.
- **Loading the upgrade archive**  
The name of drive machine data 1254 has been changed. That is why the following message is read out when you load the upgrade archive:  
Drive x: Line x: Entry not found in ACC file: N1254 \$MD\_SPACE\_VECTOR\_FILTER\_TIME  
Notice!  
MD1254 is assigned default values. Check against the data backup whether the value is now different from the default (0.5 millisecons).

- DRAM expansion  
After loading the upgrade archive, MD \$MN\_USER\_MEM\_DYNAMIC should be reset to the default value of the CCU 3.
- Important changes to standard machine data
 

CCU 1	CCU 3
MD10072=1	MD10072=0.5
MD10134=3	MD10134=6
MD28070=30	MD28070=38
MD28520=1	MD28520=3

## 1.6 Upgrading from CCU 2 to CCU 3

Memory problems may occur when upgrading a CCU 3 with a CCU 2 series startup file because the SRAM memory expansion of the CCU 2 is not defined with option data. On the CCU 3, any SRAM memory greater than the basic complement (768KB) is defined by options. In that case, part programs must be unloaded from the CCU 2 before the series startup file is created, so that the series startup can be reloaded without any problem. If it is not possible to load all the programs again, memory options must be upgraded.

Note:

The CCU 3e software **can** be flashed. The flash procedure is marked with number 8 on the 7-segment display and takes about 2 minutes. The end of the flash procedure is displayed with number 9.

## Upgrading to CCU 3.4 with PLC 314C-2DP

With CCU 3.4, the PLC 314C-2DP has also been introduced for SINUMERIK 810D analog to the \*.4 NCUs. The order number is 6FC5410-0AY03-1AA0.

- **Requirements for upgrade:**

- STEP 7 version >= 5.1 service pack 2, hotfix 3 or STEP 7 on HMI version >= 5.1 with service pack 3
- CCU software version >= 6.5.26
- PLC firmware version >= 10.60.22
- Toolbox >= 6.3.2
- Basic PLC program >= 6.3.2
- HMI ADV version >= 5.3.20, >= 6.1.15 or >= 6.2.12, 6.3.xx, 6.4.xx
- HMI EMB version >= 6.2.34.

If PLC projects with S7 hardware configurations are to be accepted, a new PLC hardware configuration will have to be created or adapted. For this purpose, the PLC CPU 314C-2DP must be integrated into the hardware configuration (e.g. through replacement of components).

The hardware components are available after the installation of Toolbox V 06.05.02 under the STEP 7 hardware configuration. The programming tool STEP 7 and knowledge of SIMATIC STEP 7 are required.

- **PLC changes compared to PLC 315-2DP**

- The performance is faster by an approximate factor of 3
- Max. user memory 480KB
- Min. of 16, max. of 32 PROFIBUS slaves / size SDB 2000 <= 32KB
- 256 timers
- 256 counters.

- **NC performance**

The GX1 processor is now clocked with 266MHz (previously 233MHz).

## Notes

### 1.7 Spindle dynamics

The machine data for describing the spindle dynamics must be set so that they approximately correspond to the actual dynamics of the spindle. If the values are increased unnecessarily, alarms may be issued during the changeover from spindle to positioning mode.

### 1.8 Spindle setpoint display

The spindle setpoint display in the HMI spindle window is no longer affected by the content of MD 22410 \$MC\_F\_VALUES\_ACTIVE\_AFTER\_RESET. The response is now as follows:

\$MN\_DISPLAY\_FUNCTION\_MASK, bit 1=0

When the spindle is at zero speed, set speed "0" is displayed.

Example:

M3 S100

g4 F2

M5                    Setpoint display on HMI "0" rpm

\$MN\_DISPLAY\_FUNCTION\_MASK, bit 1=1

When the spindle is at zero speed, set speed "100" is displayed.

Example:

M3 S100

g4 F2

### 1.9 Upgrading to CCU3 / "Handling" function

In SW 6.4 and higher the "Handling" function is no longer available in the default version, but can be implemented via loadability. This means that the technological function "Handling" must be obtained via eSupport or from Siemens sales. See the upgrade instructions for the compile cycles for additional information.

### 1.10 Output specifications of predefined auxiliary functions

Machine data \$MC\_AUXFU\_PREDEF\_SPEC introduced with SW 6.4 may cause incompatibilities during auxiliary function output. If required, the output specifications of predefined auxiliary functions can be adjusted via machine data \$MC\_AUXFU\_PREDEF\_SPEC. The output specifications of user-defined auxiliary functions can be defined via machine data \$MC\_AUXFU\_ASSIGN\_SPEC.

The order of the output specifications' significance is as follows:

\$MC\_AUXFU\_PREDEF\_SPEC[ index ]

\$MC\_AUXFU\_GROUP\_SPEC[ grpindex ]

\$MC\_AUXFU\_(M,S,T,H,F,D,DL)\_SYNC\_TYPE

This means that the predefined output specifications always apply to the predefined auxiliary functions.

Notes:

- In SW 6.4 and higher, the spindle M functions (e.g. M3/M4/M5) are output by default prior to the traversing movement, even though MD \$MC\_AUXFU\_M\_SYNC\_TYPE=1 (output during the movement). However, the time the spindle M functions are to be output can be adjusted in MD \$MC\_AUXFU\_PREDEF\_SPEC.
- The predefined auxiliary functions cannot be overwritten during configuration of user-defined auxiliary functions. Alarm "4185 channel K1 illegal configuration of an auxiliary function..." will be output in this case.  
This alarm will be also be output, if illegal auxiliary function groups have been defined.  
This was not monitored in software versions < 6.4.9.

Example:

M3 placed into the fifth auxiliary function group, although only the second group is permissible.

- The spindle auxiliary functions M1=40 through M1=45 are now assigned to the fourth auxiliary function group by default (see MD \$MC\_AUXFU\_PREDEF\_GROUP).
- In SW 6.4 and higher, the master spindle address extension is automatically output at the interface on programming M40 through M45.

### 1.11 Changes in Safety machine data (06.05.35)

The maximum values of the following machine data have been increased.

- safe\_velo\_switch\_delay → 10 min.
- safe\_stop\_switch\_time\_c → 10 min.
- safe\_stop\_switch\_time\_d → 10 min.
- safe\_stop\_switch\_time\_e → 10 min.
- safe\_pulse\_disable\_delay → 10 min.

### 1.12 NCU system resources

In "Reset" status, the load imposed on the NCU by the position controller and interpolator should not exceed 60-65%. The current load can be checked under Diagnostics/System resources.

### 1.13 M06 auxiliary function output after block search

With standard machine data and definition of an auxiliary function group for M6, this M function is no longer output as of NCK Software Version 51.20.00 and Version 67.00.00 after block search.

1. Remedy:

Redeclaration from M06 to L06

2. Remedy:

Mx = 06

3. Remedy:

Change the auxiliary function group M6 included in MD 22040 \$mc\_auxfu\_predef\_group[>=5] into a free group.

Example:

Assignment

MD22000[0]=5

MD22010[0]=M

MD22020[0]=0

MD22030[0]=6

MD22035[0]=H21

Change

MD 22040 \$mc\_auxfu\_predef\_group[5]=5

## General Notes on Software Upgrades

- Before the upgrade, series startup files and upgrade files must be created, which only contain machine data that differ from the default values.

Machine data 11210 UPLOAD\_MD\_CHANGES\_ONLY = FF is to be set for this purpose.

This ensures that the machine data contain the originally set values after a software update even in the case of differing standard preassignments as a result of the respective software versions.

However, machine data with the protection level "**System**" should be set to the default values applicable to the relevant software version. A data backup generated with 11210

UPLOAD\_MD\_CHANGES\_ONLY = FF contains the machine data with their current values which differ from their defaults.

- In order to ensure that the machine data with the protection level "System" contain default values after a software update, it is essential to save the series startup file and upgrade file without "line check sum". Machine data 11230 MD\_FILE\_STYLE bit 0 = 0 is to be set for this purpose.
- If the series startup file with the protection level "**Manufacturer**" generated by UPLOAD\_MD\_CHANGES\_ONLY = FF and MD\_FILE\_STYLE bit 0=0 is read in again, then the machine data with protection level "System" are not overwritten with the values from the backup files. They are set to the default values applicable to the relevant software version. This ensures that no obsolete settings are carried over which might not be executable with new software.
- After the data has been read in, the alarm log contains alarm 4075 "Data not changed because of lack of access rights". This alarm indicates that default values for system data have not been overwritten.
- If this procedure is not possible without line check sum (for example with a defective NCU), then a machine data file should be generated with UPLOAD\_MD\_CHANGES\_ONLY=FF after the upgrade, and the machine data it contains should be checked. In this case, the following data in particular should be checked to see that they have their default settings.

18240 LUD\_HASH\_TABLE\_SIZE  
18242 MAX\_SIZE\_OF\_LUD\_VALUE  
18250 CHAN\_HASH\_TABLE\_SIZE  
18260 NCK\_HASH\_TABLE\_SIZE  
18290 FILE\_HASH\_TABLE\_SIZE  
18300 DIR\_HASH\_TABLE\_SIZE  
18500 EXTCOM\_TASK\_STACK\_SIZE  
18502 COM\_TASK\_STACK\_SIZE  
18510 SERVO\_TASK\_STACK\_SIZE  
18512 IPO\_TASK\_STACK\_SIZE  
18520 DRIVE\_TASK\_STACK\_SIZE  
18540 PLC\_TASK\_STACK\_SIZE  
18900 FPU\_ERROR\_MODE  
18910 FPU\_CTRLWORD\_INT  
18920 FPU\_EXEPTION\_MASK  
28500 PREP\_TASK\_STACK\_SIZE

Alternatively, an existing file can be modified with the tool SinuComArc, by deleting the machine data listed above (areas: Global.ini, Chan.ini, Initial.ini).

The channel machine data 28070 NUM\_BLOCKS\_IN\_PREP must be checked. The settings have often been modified by manufacturer-specific applications, for example memory and time optimizations. In the event of problems, at least the default values should be set here.

### **New Software Version after Hardware Replacement**

- If an NCU is replaced by new hardware, it may happen that the old software version is no longer executable. It therefore also has to be upgraded to a newer software version by **trained** service personnel. In this connection, as from software version 3.7, in each case the last released version of the software series must be used (e.g. 3.7.20, 4.4.39, 6.2.10 etc.) with which the new NCU can be operated.

- The prerequisite for upgrading is the possibility of
  - editing NCU data backups
  - starting up drives
  - starting up the PLC

and the availability of the necessary tools (e.g. SinuComArc, commissioning tool, STEP 7, etc...).

- Memory configuration problems can occur while reading in the data backups, as "old" settings were also backed up in the data backups (see general notes). In this case, particular attention has to be paid to MD18210 USER\_MEM\_DYNAMIC and MD18230 USER\_MEM\_BUFFERED. The following data also have to be checked to see that they have their default settings.

```

18240 LUD_HASH_TABLE_SIZE
18242 MAX_SIZE_OF_LUD_VALUE
18250 CHAN_HASH_TABLE_SIZE
18260 NCK_HASH_TABLE_SIZE
18290 FILE_HASH_TABLE_SIZE
18300 DIR_HASH_TABLE_SIZE
18500 EXTCOM_TASK_STACK_SIZE
18502 COM_TASK_STACK_SIZE
18510 SERVO_TASK_STACK_SIZE
18512 IPO_TASK_STACK_SIZE
18520 DRIVE_TASK_STACK_SIZE
18540 PLC_TASK_STACK_SIZE
18900 FPU_ERROR_MODE
18910 FPU_CTRLWORD_INT
18920 FPU_EXCEPTION_MASK
28500 PREP_TASK_STACK_SIZE

```

Alternatively, an existing file can be modified with the tool SinuComArc, by deleting the machine data listed above (areas: Global.ini, Chan.ini, Initial.ini).

The channel machine data 28070 NUM\_BLOCKS\_IN\_PREP must be checked. The settings have often been modified by manufacturer-specific applications, for example memory and time optimizations. In the event of problems, at least the default values should be set here.

In order to be able to check these data, the series startup file and upgrade file must be processed with the tool SinuComArc. One checks whether these data are in the backup before then deleting them. This does not overwrite the new default values. After reading in the edited data backup, the control should then be started. Memory options still have to be checked.

- **Notes:**  
The data backups cannot be edited with conventional editors (e.g. Word) and then read in again.

Drive data (BOT files):

There is an internal converter for BOT files, which ensures that drive data backups can be read into various software versions. However, the converter cannot be guaranteed to work for all software upgrade combinations. Boot file conversion is not provided until drive software version 06.01.01. It may also happen that the drives have to be restarted after an upgrade.



## General Restrictions

- If STEP 7 version 5.3 is being used, the Toolbox has to be installed if projects (including PLC blocks) containing hardware components of the Toolbox are to be processed.
- Slave operation of the PROFIBUS is not possible with CCU3.4 / NCU\*.4. If such a configuration is required, it must be implemented with a CP module or an NCU \*.5.
- Function G643 (block-internal smoothing) has been released for applications in the tool change area (e.g. optimizations for approaching the tool change position).  
It is not enabled for applications in the machining process.
- The functions FCUB and FLIN in combination with the compressor COMPCAD have not been released.
- NCUs nnn.3: The PCU 50 can only be shut down with the Exit button in emergency stop mode if PLC firmware version < 12.30.10 is used.
- NCUs nnn.4: The PCU 50 can only be shut down with the Exit button in emergency stop mode if PLC firmware version < 10.60.17 is used.
- With the NCU 573.3, it is no longer possible to enable 10 channels and 31 axes at the same time. That number is now limited to 8 channels. This restriction does not apply to the replacement type 573.3 (6FC5357-0BB33-0AA\*)
- The number of channels is limited to 6 for NCU 572.3 / 572.4, 31-axis software. This restriction does not apply to the replacement types 572.3 (6FC5357-0BB23-0AA\*) and 572.4 (6FC5357-0BB24-0AA\*).
- The number of axes including the DMP block is limited to 31. If, for example, a DMP block is used with 31-axis software, a total of 30 axes is still possible.

## NCK Functional Improvements from Version 06.05.49.00 to Version 06.05.53.00

<b>RQ Nr.</b>	AP00650574	AP00915602	AP00915890	AP00917508
AP00762665	AP00782108	AP00820071	AP00849771	AP00665479
AP00848722	AP00877195			

<b>51.29.03</b>	AP00650574	AP00915602	AP00915890
AP00917508	AP00762665	AP00782108	AP00820071
AP00849771	AP00665479		
<b>51.29.04</b>	AP00953368	AP00880456	AP00845988

Log file 06.05.53 840D 31A

```

          P C M _ V E R S
usage:  Version:  V02.03  from  21.06.99
<path / name of PCM - imagefile *.abb >
          SINUMERIK 840D  AUT/E231
          C O N T E N T S
          06.05.53 840D 31A  D8ph_km
    
```

PCM - Version: 02.18

System	Versionstamp	Date	Checksum	Linkdate/Time	Length	at
Monitor Loader	51.29.04	28/04/10	280410	459E9676	28/04/10 16:11:59	015754 000140
Communic.Monitor	01.01.07	10.05.94	100594	5C080795	10/05/94 13:26:36	0030D0 015894
Communic.System	05.06.00	04/02/26	250604	61911170	25/06/04 08:09:56	00D05C 018964
SIMATIC System	07.02.12	99/11/15	151199	499AAEC9	15/11/99 07:23:47	02E038 0259C0
PLC314-FB15 SI06.06.02	06.06.02*04/10/19	211004	7EF23F44	21/10/04 10:31:07	0025EC 0539F8	
SIMATIC System_D	04.02.14	99/11/15	151199	EDBAE261	15/11/99 08:10:40	050214 055FE4
PLC315-FB15 SI06.06.02	06.06.02*04/10/19	211004	8ABE2BEB	21/10/04 10:36:47	00257C 0A61F8	
PLC314C-FB15SI06.06.02	06.06.02*04/10/19	211004	86C59271	21/10/04 10:35:02	005980 0A8774	
PLC317-FB15 SI06.06.02	06.06.02*04/10/19	211004	2BD2A97D	21/10/04 10:33:41	0044F0 0AE0F4	
Monitor System	51.29.04	28/04/10	280410	CCA1DDAB	28/04/10 16:11:44	001FB8 0B25E4
Numeric ContSI51.19.00	51.29.04	28/04/10	280410	B4538E8B	28/04/10 16:13:53	301C5C 0B459C
VSA System SI05.01.35	05.01.37	07/11/07	071107	36A8F625	07/11/07 14:20:31	017134 3B61F8
VSA Data Description	05.01.37	07/11/07	251007	24403268	25/10/07 13:30:53	004C50 3CD32C
VSA Default Data	05.01.37	07/11/07	251007	C9610B7E	25/10/07 13:30:53	000BB8 3D1F7C
Drive Version Info	05.01.37	07/11/07	251007	467CDF9F	25/10/07 15:38:00	021260 3D2B34
HSA System SI05.01.35	05.01.37	07/11/07	071107	4FBC8223	07/11/07 14:21:59	03CD94 3F3D94
HSA Data Description	05.01.37	07/11/07	251007	2847C445	25/10/07 13:30:53	005ED0 430B28
HSA Default Data	05.01.37	07/11/07	251007	FB7EBB88	25/10/07 13:30:53	000E94 4369F8
SLM Data Description	05.01.37	07/11/07	251007	28B126F0	25/10/07 13:30:53	004AD0 43788C
SLM Default Data	05.01.37	07/11/07	251007	79FF2E35	25/10/07 13:30:53	000BB8 43C35C
Inverter Codes	06.08.28	27/01/10	270110	C37BE6C5	27/01/10 13:45:24	0010E8 43CF14
VSA Motor Codes	06.08.28	27/01/10	270110	207002EF	27/01/10 13:45:25	01160C 43DFFC
HSA Motor Codes	06.08.28	27/01/10	270110	004F0C49	27/01/10 13:45:24	005A5C 44F608
SLM Motor Codes	06.08.28	27/01/10	270110	25284227	27/01/10 13:45:25	004ACC 455064
VSA Inverter Data	06.08.28	27/01/10	120110	315B6CE1	12/01/10 20:33:20	000518 459B30
VSA Motor Data	06.08.28	27/01/10	120110	CDD2122A	12/01/10 20:33:27	012428 45A048
HSA Inverter Data	06.08.28	27/01/10	120110	50631F8B	12/01/10 20:33:23	0003A0 46C470
HSA Motor Data	06.08.28	27/01/10	120110	3AA6BB5C	12/01/10 20:33:30	007FB0 46C810
SLM Motor Data	06.08.28	27/01/10	120110	24592DE4	12/01/10 20:33:31	0033A0 4747C0
DriveSystem SI06.08.20	06.08.28	27/01/10	270110	56456CCA	27/01/10 11:28:10	061E14 477B60
VSA-2 Data Description	06.08.28	27/01/10	270110	5FED8700	27/01/10 11:28:02	00AF90 4D9974
VSA-2 Default Data	06.08.28	27/01/10	270110	123F40C6	27/01/10 11:28:03	00226C 4E4904
HSA-2 Data Description	06.08.28	27/01/10	270110	3E229738	27/01/10 11:28:02	00A650 4E6B70
HSA-2 Default Data	06.08.28	27/01/10	270110	2A5E9DC3	27/01/10 11:28:03	002254 4F11C0
SLM-2 Data Description	06.08.28	27/01/10	270110	703E5409	27/01/10 11:28:02	00AE50 4F3414
SLM-2 Default Data	06.08.28	27/01/10	270110	FEBB5C75	27/01/10 11:28:03	00224C 4FE264
HLA System	01.02.15	21/12/05	211205	A7DE713A	21/12/05 14:06:16	0359C0 5004B0
HLA Data Description	01.02.15	21/12/05	211205	962F04E3	21/12/05 14:06:43	003410 535E70
HLA Default Data	01.02.15	21/12/05	211205	3393C91E	21/12/05 14:06:44	000D78 539280
HLA Valve Data	01.02.15	21/12/05	211205	4F233E4D	21/12/05 14:35:49	001E68 539FF8
Driver Module	01.01.01	14.06.94	50899	B838268F	5/08/99 18:30:36	0000C4 53BE60
Serialnumber	01.01.01	24.01.95	221100	0327C431	22/11/00 11:27:40	0000D4 53BF24
Joblist for IBN	02.00.08	02/10/18	181002	3BFF6EC7	18/10/02 10:13:35	00023C 53BFF8
Joblist for IBN/KOMP	01.01.06	02/10/18	181002	7ACD4248	18/10/02 10:16:05	00041C 53C234
Joblist for UPGRADE	01.01.06	02/10/18	181002	0AF96DF9	18/10/02 10:09:42	0003C0 53C650
Link Loader	05.01.01	98/06/03	061098	F50A5D72	06/10/98 08:37:23	00029C 53CA10
Link Debugger Aequidis	05.03.01	00/11/28	281100	E5024825	28/11/00 13:42:35	0091AC 53CCAC
Link Software Aequid	05.02.05	02/01/07	070102	6083ACE7	07/01/02 11:05:01	008A8C 545E58
DP Software Aequid	01.00.06	02/08/13	130802	FCAE5BA2	13/08/02 10:36:01	01FC18 54E8E4
NCK-31A/10C	01.00.00	12/23/02	40510	0388C1E5	4/05/10 16:07:18	000150 56E4FC
NCK-31A/10C	01.00.00	12/23/02	40510	0388C1ED	4/05/10 16:07:18	000150 56E64C
NCK-6A/2C	01.00.00	01/05/04	40510	283BE448	4/05/10 16:07:22	000218 56E79C
NCK-2A/2C	01.00.00	12/23/02	40510	A69C8734	4/05/10 16:07:17	000474 56E9B4

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