SS 1033335 Actia Instruments to Ametek (AMI) Instruments

Service Solution Title: 1033335 Actia Instruments to Ametek (AMI) Instruments

Applicable Vehicles: FCCC step vans built between 2002 and 2010.

Symptoms: After-market purchasing has incurred numerous issues in obtaining service replacement parts at a reasonable price from current vendor Actia. FCCC Engineering developed the attached service parts and installation instructions from Ametek to serve as replacement service parts when a replacement instrument panel is needed.

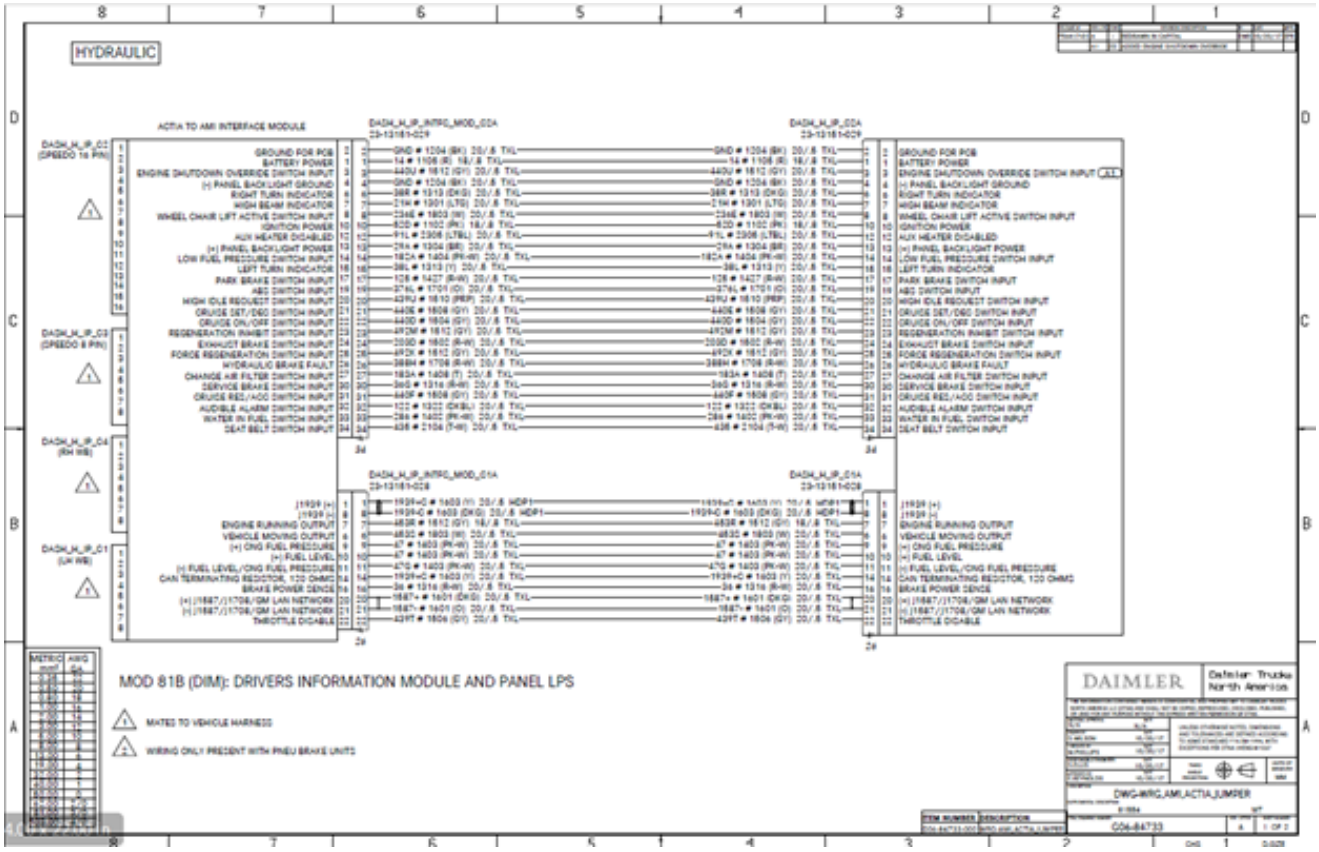
Issue: If/When replacement service parts are no longer available, it would require to follow the attachments in order to know what replacement parts need to be ordered.

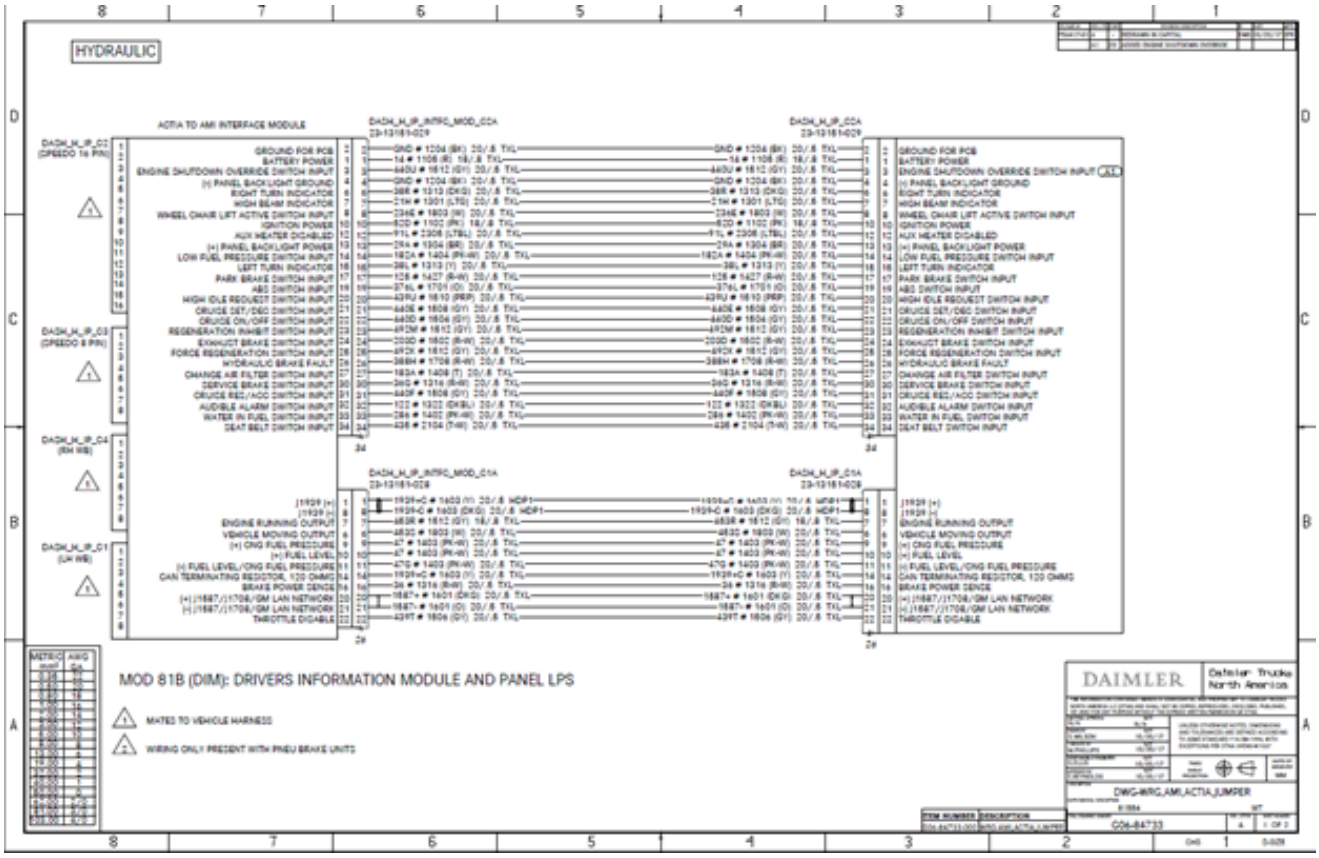
Case Study: N/A

Solution: See the attachments. **D66-03190** shows you the cross-over list from your current Actial panel to the replacement Ametek panel for units built between 2002 to 2007. Then the **D06-84989** MUST be used to see ALL the other parts that will be need **IN ADDITION** to the replacement panel. This document also gives the installation instructions. The G06-84733 shows the new wiring schematics IF needed to reference. **You will also have to know if the vehicle has hydraulic or air brakes in order to know which parts list to use. IF air, you will also need to know if unit has Standard or Metric gauges in order to know which air gauges you will need**.

The **D66-03139** attachment shows the cross-over for units **built between 2007 to 2010 with Cummins ISB07 engines**. These would be units that do NOT show a complete instrument panel assembly part number in BOM 732, as only the individual gauge part numbers are shown such as **ATY 109494 or ATY 109493** for example in BOM **844.** One should also reference BOM **810** to obtain unit of measure such as **ATY 109496 for English** or **ATY 109495 for Metric** for example, in order to determine what the replacement **W22** part number will be.

The **D66-03368** attachment MUST be referenced to show the programming on the new Ametek that will be needed whenever the replacement panels are the **A22-69693 or A22-69698** families of panels are used as replacements as seen on the D66-03190 cross-over list.
This programming will **NOT** be needed when the replacement Ametek panels are the **W22** families of panels being used as replacements for units built between 2007 to 2010 as seen on the D66-03139 cross-over list.


HYDRAULIC
ACTIA TO AMI INTERFACE MODULE
MOD 81B (DIM): DRIVERS INFORMATION MODULE AND PANEL LPS
MATES TO VEHICLE HARNESS
WIRING ONLY PRESENT WITH PNEU BRAKE UNITS
DAIMLER
Daimler Trucks North America
DWG-WRG_AMI_ACTIA_SUMRER
C06-84733


HYDRAULIC
ACTIA TO AMI INTERFACE MODULE
MOD 81B (DIM): DRIVERS INFORMATION MODULE AND PANEL LPS
MATES TO VEHICLE HARNESS
WIRING ONLY PRESENT WITH PNEU BRAKE UNITS
DAIMLER
Daimler Trucks North America
DWG-WRG,AMI,ACTIA,JUMPER
C06-84733

RELEASE NUMBER	REV LTR	REVISION DESCRIPTION	BY	DATE	APPD
P42905-01	-	INITIAL RELEASE	KMD	09/16/11	EPR

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DAIMLER

Daimler Trucks North America

MATERIAL APPROVAL	DATE N/A
DRAWN BY M.DAMOIN	DATE 09/16/11
CHECKED BY D.GRATE	DATE 09/16/11
RESPONSIBLE ENGINEER B.REED	DATE 09/16/11
APPROVED BY E.REYNOLDS	DATE 09/16/11

UNLESS OTHERWISE NOTED, DIMENSIONS AND TOLERANCES ARE DEFINED ACCORDING TO ASME STANDARD Y14.5M-1994, WITH EXCEPTION PER DTNA cs(ENG.W1027

THIRD ANGLE PROJECTION

UNIT OF MEASURE: MM

DESCRIPTION: INSTL-PANEL,INSTRUMENT

SUPPLEMENTAL DESCRIPTION: 7320I

PART/DRAWING NUMBER	REVISION LETTER	PAGE
D06-84898	-	1 of 6

PART NUMBER: D06-84898-000

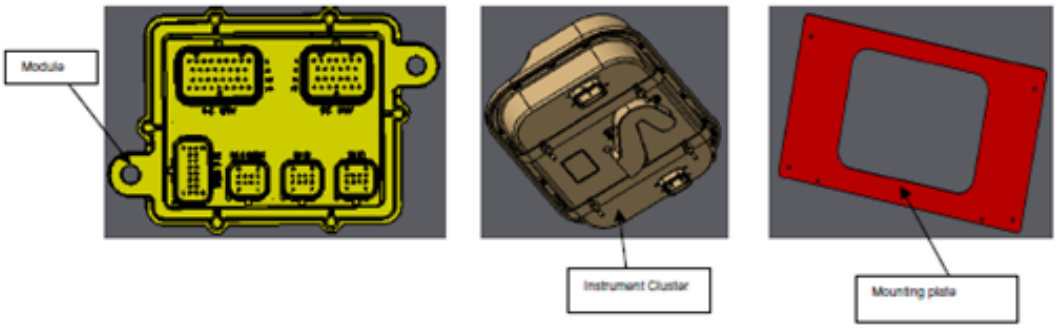
DESCRIPTION: INSTL-PANEL,INSTRUMENT

Template Version 1.1

Service Work Instructions

For Vehicles WITHOUT air brakes, use parts and follow instructions below:

Item	Name	Part Number	Quantity
1	Module	06-84694-000	1
2	Instrument Cluster	Refer to service notes	1
3	Jumper Harness	A06-84704-000	1
4	Mounting Plate	06-84700-000	1
5	Tie band	23-09796-629	2



1. Remove existing IP from dash and save existing hardware for later use.
2. Install and secure module (1) to existing harness under dash using tie bands (5).
3. Connect existing dash IP harnesses to the module respectively and make any adjustments as needed.
   - The speedometer 16-pin connector mates to the module 16-pin connector.
   - The speedometer 8-pin connector mates to the module 8-pin connector labeled speedo 8-pin.
   - The 8-pin RH warning bank connector mates to the module 8-pin connector labeled RH WB.
   - The 8-pin LH warning bank connector mates to the module 8-pin connector labeled LH WB.
4. Secure the new instrument cluster (2) to the mounting plate (4) using hardware provided with instrument cluster.
5. Connect the jumper harness (3) to the module (1) and the new instrument cluster (2).
6. Secure the instrument cluster (2) and panel (4) to the vehicle dash using hardware removed from step 1. Dash modifications may be required.

Hardware provided with Instrument Cluster for mounting

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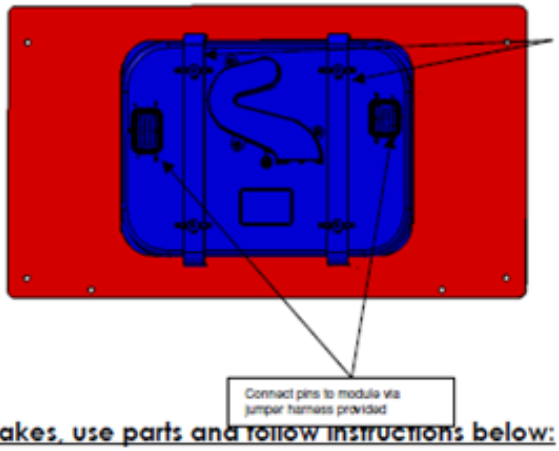
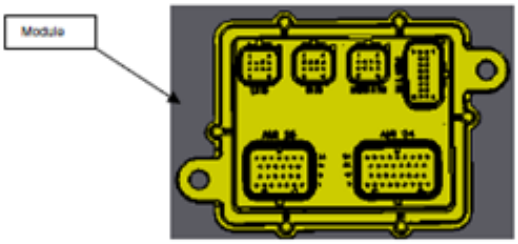
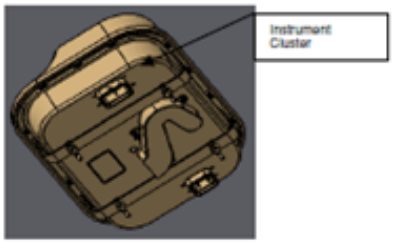


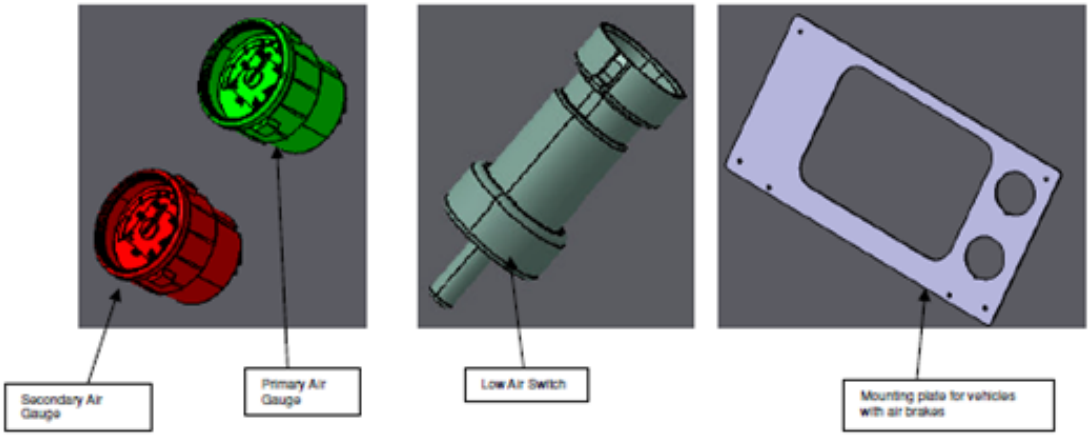
For Vehicles WITH air brakes, use parts and follow instructions below:

Item	Name	Part Number	Quantity
1	Module	06-84694-000	1
2	Instrument Cluster	Refer to service notes	1
3	Jumper Harness	A06-84704-001	1
4	¼ Inch Connector	SMCKV2HO7 34S	2
5	5/32 Inch Connector	SMCKV2H03 34S	2
6	Primary Air Gauge	A22-63139-400 (US)	1
	Primary Air Gauge	A22-63139-410 (Metric)	1
7	Secondary Air Gauge	A22-63139-401(US)	1
	Secondary Air Gauge	A22-63139-411 (Metric)	1
8	Tee-Pipe	23-09311-001	2
9	Low Air Switch	FSC1749 9192	2
10	Mounting Plate	06-84700-001	1
11	Tie Band	23-09796-629	2
12	Gauge Jumper	A06-41592-007	1
14	5/32 Air Line (Red)	48-00100-512	1.5 FT
15	5/32 Air Line (Green)	48-00100-515	1.5 FT





	Daimler Trucks North America	ITEM/DRAWING NUMBER	REVISION	PAGE
		D06-84898	-	3 of 6



1. Remove existing IP from dash and save existing hardware for later use.
2. Connect the ¼ inch connector (4) and the 5/32 inch connector (5) to the tee-pipe (8). Connectors to be 1 ½ to 2 turns past finger tight. (**VIEW B**)
3. Connect the low air switch (9) to the bottom end of the tee-pipe (8). Twist 1 ½ to 2 turns past finger tight. (**VIEW C**)
4. Connect the ¼ inch primary air line from vehicle to one of the ¼ inch connectors (4). (**VIEW C**)
5. Connect the ¼ inch secondary air line from vehicle to the other ¼ inch connector (4). (**VIEW D**)
6. Install and secure module (1) to existing harness under dash using tie bands (11).
7. Connect existing dash IP harnesses to the module respectively and make any adjustments as needed.
   - The speedometer 16-pin connector mates to the module 16-pin connector.
   - The speedometer 8-pin connector mates to the module 8-pin connector labeled speedometer 8-pin.
   - The 8-pin RH warning bank connector mates to the module 8-pin connector labeled RH WB.
   - The 8-pin LH warning bank connector mates to the module 8-pin connector labeled LH WB.
8. Secure primary (6) and secondary (7) air gauges to mounting plate (10). (**VIEW E**)
9. Connect primary and secondary air gauges together via gauge harness jumper (12).
10. Secure the new instrument cluster to the mounting plate (10) using hardware provided with instrument cluster. (**VIEW E**)
11. Connect the 5/32 inch primary air line, green (15) from the connector (5) to the primary air gauge (6). (**VIEW C**)
12. Connect the 5/32 inch secondary air line, red (14) from the connector (5) to the secondary air gauge (7). (**VIEW D**)
13. Connect the jumper harness (3) to the module, the new instrument cluster (2), the primary air gauge (6), and low air switches (9).

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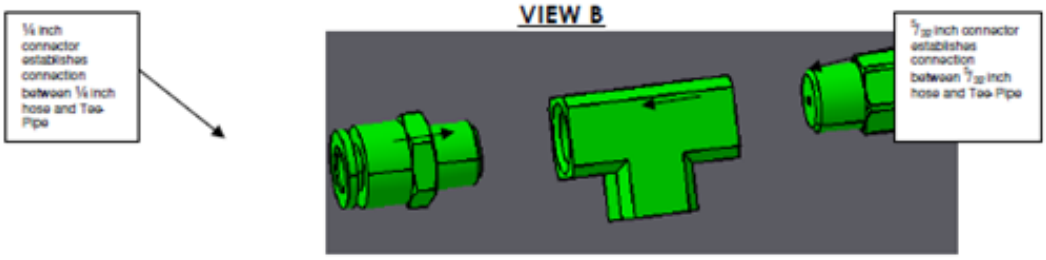
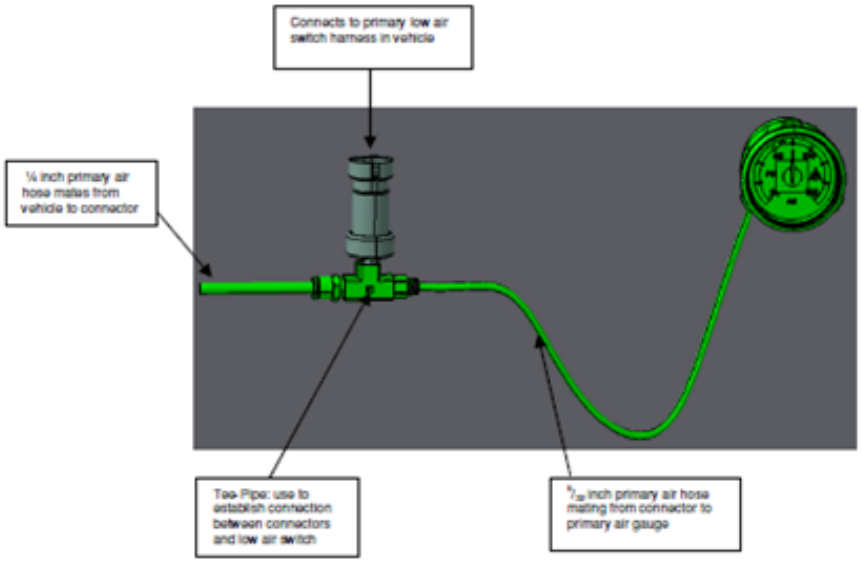
14. Secure the instrument cluster (2) and panel mount (10) to the vehicle dash using hardware removed from step 1. Dash modifications may be required.

VIEW B



VIEW C



	Daimler Trucks North America	ITEM/DRAWING NUMBER	REVISION	PAGE
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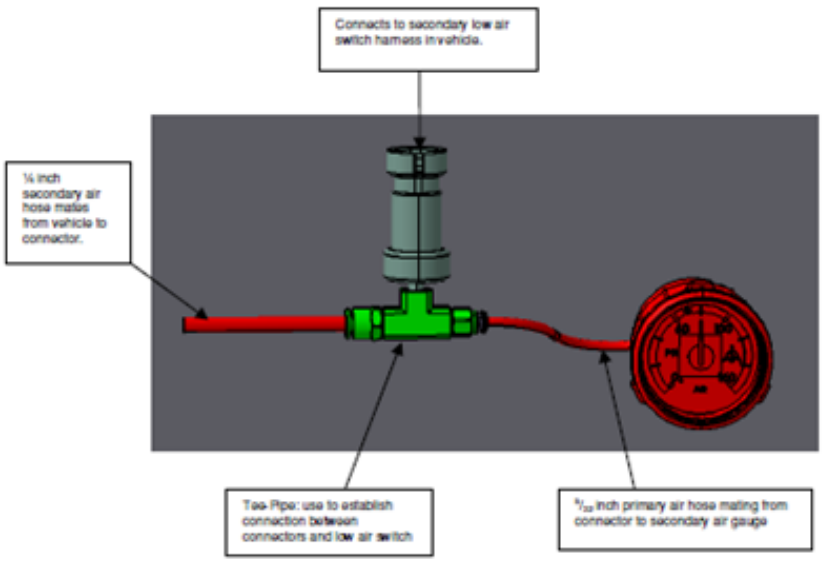
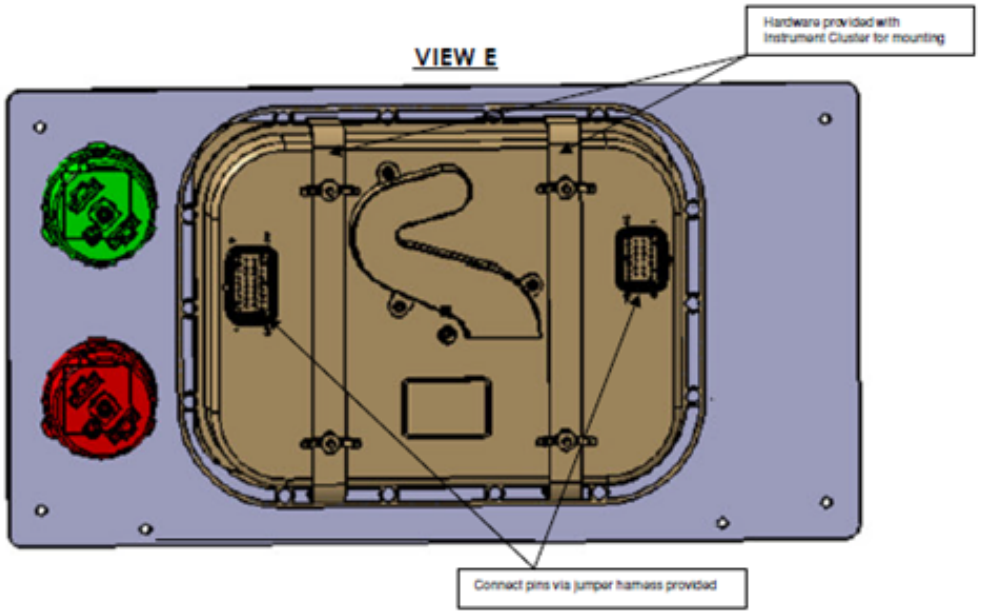
VIEW D



VIEW E



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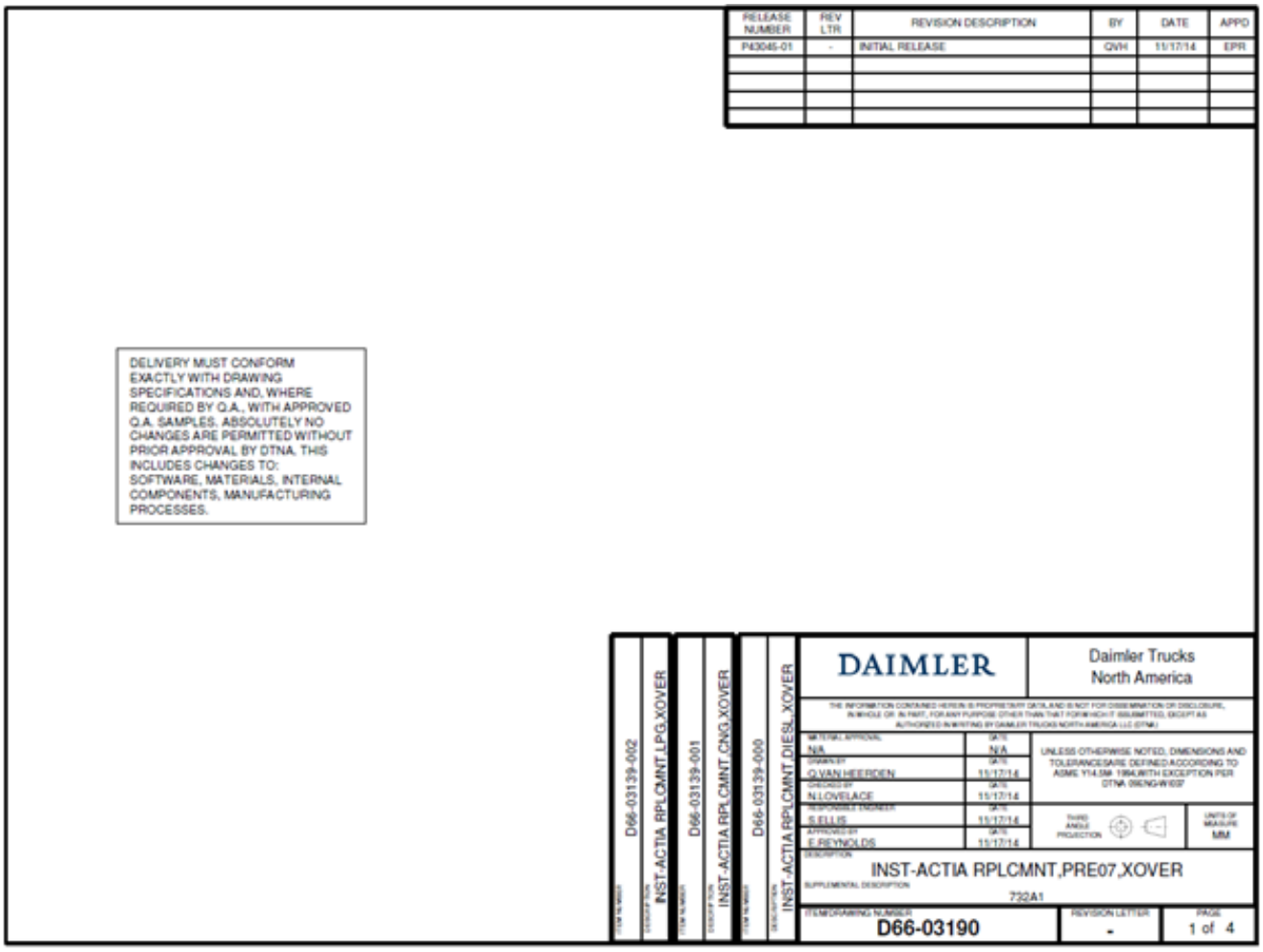

RELEASE NUMBER	REV LTR	REVISION DESCRIPTION	BY	DATE	APPD
P43046-01	-	INITIAL RELEASE	QVH	11/17/14	EPR

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D66-03139-002 INST-ACTIA RPLCMNT,LPG,XOVER

D66-03139-001 INST-ACTIA RPLCMNT,CNG,XOVER

D66-03139-000 INST-ACTIA RPLCMNT,DIESL,XOVER

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DRAWN BY Q.VAN HEERDEN	DATE 11/17/14	
CHECKED BY N.LOVELACE	DATE 11/17/14	
RESPONSIBLE ENGINEER S.ELLIS	DATE 11/17/14	THIRD ANGLE PROJECTION; UNITS OF MEASURE MM
APPROVED BY E.REYNOLDS	DATE 11/17/14	

DESCRIPTION: INST-ACTIA RPLCMNT,PRE07,XOVER

SUPPLEMENTAL DESCRIPTION: 732A1

ITEM/DRAWING NUMBER: D66-03190 | REVISION LETTER: - | PAGE: 1 of 4

-000 Diesel Crossover Chart:

Old IP Part #	New IP Part #	Engine Type
A22-58212-X00	A22-69698-000	Diesel
A22-58212-X01	A22-69698-001	Diesel
A22-58212-X02	A22-69698-000	Diesel
A22-58212-X03	A22-69698-001	Diesel
A22-58212-X04	A22-69698-002	Diesel
A22-58213-X00	A22-69693-000	Diesel
A22-58213-X01	A22-69693-001	Diesel
A22-58213-X02	A22-69693-000	Diesel
A22-58213-X03	A22-69693-001	Diesel
A22-58213-X04	A22-69693-000	Diesel
A22-58213-X05	A22-69693-001	Diesel
A22-58213-X06	A22-69693-000	Diesel
A22-58213-X07	A22-69693-001	Diesel

DAIMLER | Daimler Trucks North America | ITEM/DRAWING NUMBER D66-03190 | REVISION LETTER - | PAGE 2 of 4

-001 CNG Crossover Chart:

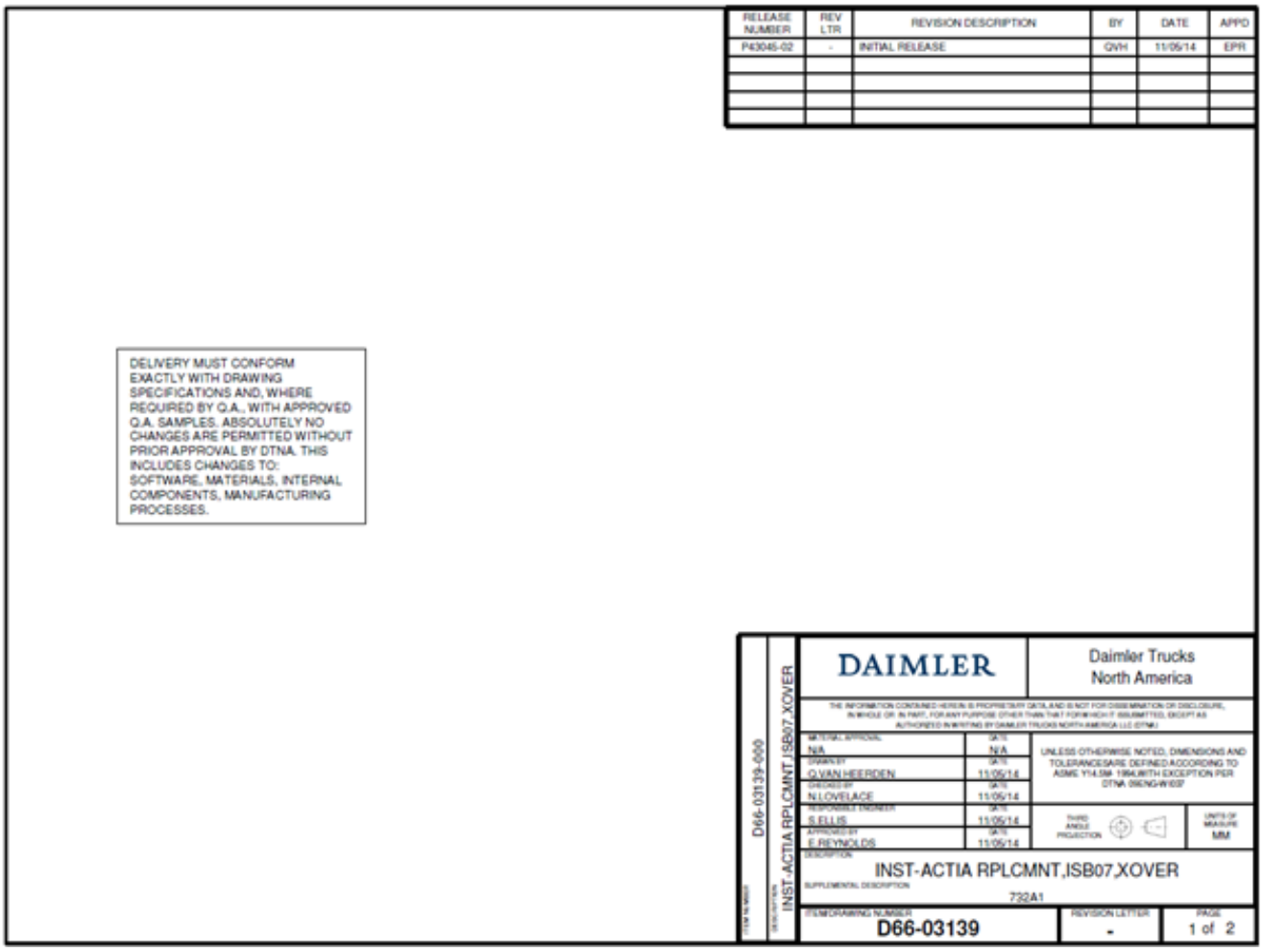
Old IP Part #	New IP Part #	Engine Type
A22-58213-X08	A22-69693-002	CNG
A22-58213-X10	A22-69693-002	CNG
A22-58213-X12	A22-69693-002	CNG
A22-58213-X14	A22-69693-002	CNG

DAIMLER | Daimler Trucks North America | ITEM/DRAWING NUMBER: D66-03190 | REVISION LETTER: - | PAGE: 3 of 4

-002 LPG Crossover Chart:

Old IP Part #	New IP Part #	Engine Type
A22-58213-X16	A22-69693-003	LPG
A22-58213-X18	A22-69693-003	LPG
A22-58213-X20	A22-69693-003	LPG

DAIMLER | Daimler Trucks North America | ITEM/DRAWING NUMBER: D66-03190 | REVISION LETTER: - | PAGE: 4 of 4



RELEASE NUMBER	REV LTR	REVISION DESCRIPTION	BY	DATE	APPD
P43046-02	-	INITIAL RELEASE	GVH	11/05/14	EPR

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D66-03139-000

INST-ACTIA RPLCMNT ISB07 XOVER

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MATERIAL APPROVAL: N/A	DATE: N/A	UNLESS OTHERWISE NOTED, DIMENSIONS AND TOLERANCES ARE DEFINED ACCORDING TO ASME Y14.5M 1994,WITH EXCEPTION PER DTNA 09ENG-W1037
DRAWN BY: G.VAN HEERDEN	DATE: 11/05/14	
CHECKED BY: N.LOVELACE	DATE: 11/05/14	
RESPONSIBLE ENGINEER: S.ELLIS	DATE: 11/05/14	THIRD ANGLE PROJECTION; UNITS OF MEASURE: MM
APPROVED BY: E.REYNOLDS	DATE: 11/05/14	

DESCRIPTION: INST-ACTIA RPLCMNT,ISB07,XOVER

SUPPLEMENTAL DESCRIPTION: 732A1

ITEM/DRAWING NUMBER	REVISION LETTER	PAGE
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ISB07 Crossover Chart:

Mod 844: Panel Configuration	Mod 840: Brake Type	Mod 810: Unit of Measure	IP part #	Jumper Part #	Module Part #	Panel Part #
4 Gauge (**ATY109494** OR **22-58310-000**)	Hydraulic (N/A)	Metric (**ATY109495** OR **22-58307-001**)	**W22-00022-008**	A06-84704-000	06-84694-000	06-84700-000
4 Gauge (**ATY109494** OR **22-58310-000**)	Hydraulic (N/A)	English (**ATY109496** OR **22-58307-000**)	**W22-00022-013**	A06-84704-000	06-84694-000	06-84700-000
6 Gauge (**ATY109493** OR **22-58309-000**)	Hydraulic (N/A)	Metric (**ATY109495** OR **22-58307-001**)	**W22-00022-023**	A06-84704-000	06-84694-000	06-84700-000
6 Gauge (**ATY109493** OR **22-58309-000**)	Hydraulic (N/A)	English (**ATY109496** OR **22-58307-000**)	**W22-00022-019**	A06-84704-000	06-84694-000	06-84700-000
6 Gauge (**ATY109493** OR **22-58309-000**)	Air (**ATY109501** OR **22-58310-002**)	Metric (**ATY109495** OR **22-58307-001**)	**W22-00022-021**	A06-84704-001	06-84694-000	06-84700-001
6 Gauge (**ATY109493** OR **22-58309-000**)	Air (**ATY109502** OR **22-58310-001**)	English (**ATY109496** OR **22-58307-000**)	**W22-00022-020**	A06-84704-001	06-84694-000	06-84700-001

DAIMLER | Daimler Trucks North America | ITEM/DRAWING NUMBER: D66-03139 | REVISION LETTER: - | PAGE: 2 of 2

RELEASE NUMBER	REV LTR	REVISION DESCRIPTION	BY	DATE	APPD
P43045-01	-	INITIAL RELEASE	CVH	12/18/14	EPR

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DAIMLER

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MATERIAL APPROVAL: N/A	DATE: N/A
DRAWN BY: Q.VAN HEERDEN	DATE: 12/18/14
DESIGNED BY: N.LOVELACE	DATE: 12/18/14
RESPONSIBLE ENGINEER: S.ELLIS	DATE: 12/18/14
APPROVED BY: E.REYNOLDS	DATE: 12/18/14

UNLESS OTHERWISE NOTED, DIMENSIONS AND TOLERANCES ARE DEFINED ACCORDING TO ASME STANDARD Y14.5M-1994, WITH EXCEPTION PER DTNA 06ENG.W0007

THIRD ANGLE PROJECTION

UNIT OF MEASURE: MM

DESCRIPTION: INSTR-ACTIA RPLCMNT CLUST

SUPPLEMENTAL DESCRIPTION: 732A1

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D66-03368-000

INSTR-ACTIA RPLCMNT CLUST

Purpose

This document will give brief instructions on the configuration of the Ametek retrofit clusters that are to replace the Actia instrument panels that are in use in ISB02's, MB904's and CNG's.

Configuration menu

All retrofit clusters need to be configured before use. The configuration menu is entered by pressing and holding the right ⇨ and down ⇩ arrows on the instrument panel while turning the ignition on. The menu is shown in Figure 1.

The down arrow can be used in order to scroll through the options on the configuration menu and the right arrow can be used to select the option that is highlighted.

Configuration Menu
1- Transmission Type
2- Brake Type
3- ABS Communication Type

Figure 1: Configuration menu

The configuration menu consists of 3 options. Upon entering the menu the transmission type, brake type and ABS communication type will be able to be set.

Transmission Type

Selecting option 1 from the configuration menu displays the transmission type setup screen shown in Figure 2. The user will have a choice between the 3 different transmission types: Automatic transmissions, Manual transmissions, or Hybrid Electric transmissions.

Transmission Type
1- Automatic
2- Manual
3- HEV

Figure 2: Transmission type setup screen

The automatic transmission type will be used as default at all times. The user should use the down and right arrow to select the appropriate transmission type that is used on the vehicle.

Brake System Type

Selecting option 2 from the configuration menu displays the brake type setup screen shown in Figure 3. This menu allows a choice between the 2 different types of braking systems. The user will have the option of choosing between hydraulic and pneumatic brakes.

Brake Type
1- Hydraulic
2- Pneumatic

Figure 3: Brake type setup screen

The default selection for brake system type will be hydraulic brakes. The user should use the arrows to change the selection to pneumatic if this is what is used on the vehicle.

ABS Communication Type

Selecting option 3 from the configuration menu displays the ABS communication type setup screen that allows a choice between the two different types of ABS communication types. Users will have the option of choosing between J1939 and Hardwire communications.

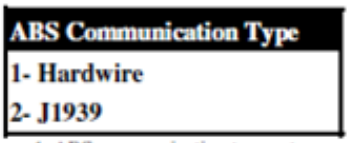

Figure 4: ABS communication type setup screen

Vehicles with J1939 communication will transfer and receive messages/directions through the J1939 CANBUS for ABS failure while vehicles with hardwires receive ABS failure information from dedicated hardwires.

The default selection for ABS Communication Type is Hardwire. This should be changed to J1939 if necessary.

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