



ASHOK LEYLAND

MASS APPROVAL NOTE

DATE: 10.01.2018

From: Deptt. Name (Initiator) Centre of Cost Excellence

SS Agg.	PD-CTM	PD-VEE	PD-VI
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	-NA-
Prasad Rao MFG.	Kumal R Marketing	Alexander Garg Service	Quality
<i>[Signature]</i> (Prasad Rao)	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
Prasad Rao	Divakaran J	SARAN KUMAR	S. SRINIVASAN

Model	Existing Part No.	Revised Part No.	Description	Qty
All	Refer Annex	Revision change in ABS Harness Child part of WABCO – 4497660260 000 Child part of Minda Sai- 415031001000	Core Wire size reduction from 0.75 Sq mm to 0.50 Sq mm	Open
Deviation Requested For: ABS Sensor Cable wire and Sheath size reduction under VAVE proposal given by Supplier Sensor Cable with reduces diameter sample fitment trial has been completed at HOSUR and checked End of line ABS check all signals strength found ok Deviation requested to start supply of VAVE Harness on immediate basis as drawing release will take more time. Deviation is applicable for Minda Sai , Minda Corporation and WABCO supplier of ABS Sensor Cable.				
Quantity/ Period : Open				
Reason for Deviation: Multiple Drawing updation will take more time, hence requested Approval Note for early implementation to get more accrual saving				



Ranganathan, Jayashankar <jayashankar.r@wabco-auto.com>

Fwd: AL harness SE Cable CRP - Mass approval note

1 message

Micheal , Joseph Kanish <josephkanish.m@wabco-auto.com>

Fri, Apr 12, 2019 at 12:11 PM

To: Vetriselvan.N1@ashokleyland.com, "Vasanth Kumar M (CQ – Supplier Quality)"

<Vasanthakumar.M@ashokleyland.com>, "Mohamood Khan A (Supplier Quality)" <Mohamood.Khan@ashokleyland.com>, Manivannan.N@ashokleyland.com, babu.m@ashokleyland.com

Cc: GOVINDAN BALAJI SRINIVASA <srinivasabalaji.g@wabco-auto.com>, Mithun Selvaraj <mithun.s@wabco-auto.com>, Jayashankar Ranganathan <jayashankar.r@wabco-auto.com>, VRIJESH GARG KUMAR <vrijesh.garg@wabco-auto.com>, MANOJ DHIMAN KUMAR <manoj.kumar@wabco-auto.com>, SAKTHIVEL VEERAMUTHU <sakthivel.v@wabco-auto.com>, Thiruvengkatachary Raghavachary <thiruvengkatachary.r@wabco-auto.com>, Shankar Venkatachalam <shankar.v@wabco-auto.com>

Sir,

As said in attached Mass Approval Note,

AL COCE team has initiated that modification in sensor cable in ABS wiring harness.

Required modification is core size of cable is reduced from 0.75 sq mm to 0.50 sq mm.

Already trial has been done at Hosur and validated by AL team.

We are ready with modified cable & planning to supply by next week.

This is a prior intimation. Once the part is dispatched we will update the further details.

Josephkanish

WABCO CQL

----- Forwarded message -----

From: **Ranganathan, Jayashankar** <jayashankar.r@wabco-auto.com>

Date: Fri, Mar 15, 2019 at 4:21 PM

Subject: Fwd: AL harness SE Cable CRP - Mass approval note

To: Joseph Kanish Micheal <josephkanish.m@wabco-auto.com>

FYI.

Thanks & regards

Jayashankar

----- Forwarded message -----

From: **Ranganathan, Jayashankar** <jayashankar.r@wabco-auto.com>

Date: Tue, Mar 5, 2019 at 10:20 PM

Subject: AL harness SE Cable CRP - Mass approval note

To: MS RaviKumar -HOD-S&P-WINC <ravikumar.ms@wabco-auto.com>

Cc: K Ebenesan -S&P-WINC <ebenesan.k@wabco-auto.com>, V Shankar -PRJ-WINC <shankar.v@wabco-auto.com>, SV Usha -S&P-WINC <usha.sv@wabco-auto.com>, Soundara -S&P-WINC, Pandian <soundrapandi.n@wabco-auto.com>, M Dileepkumar -S&P-WINC <dileepkumar.m@wabco-auto.com>, S Mithun -PD-WINC <mithun.s@wabco-auto.com>, R Thiruvengkatachary -OE-MKT-WINC <thiruvengkatachary.r@wabco-auto.com>, Gopalakrishnan Kuppuswamy <gopalakrishnan.k@wabco-auto.com>, Sakthivel, V -QAD-WINC <Sakthivel.V@wabco-auto.com>, S Janakiraman -QAD-WINC <janakiraman.s@wabco-auto.com>, B Saravanaprasath -QAD-WINC <saravanaprasath.b@wabco-auto.com>, Vikram Mohan B <vikrammohan.b@wabco-auto.com>, Vrijesh Kumar Garg - OE-FSR-MKT-WINC <vrijesh.garg@wabco-auto.com>

Dear Sir,

AL ABS harness

SE Cable CRP mass approval note attached with mail.

Implementation Cut off date - 01-April-2019 all variants.

Dear Sakthivel sir,
Please guide to implement this as per right process.
We will have a meeting tomorrow @ your desk along with all stakeholders.

Thanks & regards
Jayashankar

----- Forwarded message -----

From: **Selvaraj, Mithun** <mithun.s@wabco-auto.com>
Date: Tue, Mar 5, 2019 at 8:59 PM
Subject: Fwd: FW: ABS Sensor Cable Mass Approval Note
To: R , Jayashankar <jayashankar.r@wabco-auto.com>, Mohamed, Rabeek -PD-WINC <Rabeek.KM@wabco-auto.com>
Cc: G Srinivasabalaji -LOGISTICS-M&L-WINC <srinivasabalaji.g@wabco-auto.com>, Balaji -OE-MKT-WINC, CT <balaji.ct@wabco-auto.com>, Vrijesh, Kumar Garg -OE-FSR-MKT-WINC <Vrijesh.Garg@wabco-auto.com>, V Ramanathan -HOD-OE-MKT-WINC <ramanathan.v@wabco-auto.com>, R Thiruvenkatachary -OE-MKT-WINC <thiruvenkatachary.r@wabco-auto.com>, V Shankar -PRJ-WINC <shankar.v@wabco-auto.com>

Dear Jay,

We have got approval form AL PD for implementation of CRP wiring Harness, the cut-off date for implementation is 1st of April 2019.

Kindly align with all the respective stake holders and ensure the same.

@Mohamed, Rabeek -PD-WINC Regarind the dwg, kindly create one GCC including all the harness and clear the same.

Thanks for the understanding.

Best Regards
S.Mithun

----- Forwarded message -----

From: **Vetriselvan N (Sourcing)** <Vetriselvan.N1@ashokleyland.com>
Date: Tue, Feb 12, 2019 at 12:47 PM
Subject: FW: ABS Sensor Cable Mass Approval Note
To: S Mithun -PD-WINC <mithun.s@wabco-auto.com>
Cc: Thiruvenkatachary R -OE-MKT-WINC <Thiruvenkatachary.R@wabco-auto.com>, V -HOD-OE-MKT-WINC <ramanathan.v@wabco-auto.com>

Please confirm actions on this mass approval note from AL PD.

Regards,

Vetriselvan N

Sourcing & Supply Chain

Mob: +91 98419 93935



Description: Email_Signature

From: Ajeet Patel (Centre Of Cost Excellence)
Sent: Wednesday, January 23, 2019 4:39 PM
To: Selvaraj, Mithun <mithun.s@wabco-auto.com>
Cc: G Srinivasabalaji -LOGISTICS-M&L-WINC <srinivasabalaji.g@wabco-auto.com>; R Thiruvenkatachary -OE-MKT-WINC <thiruvenkatachary.r@wabco-auto.com>; Vetriselvan N (Sourcing) <Vetriselvan.N1@ashokleyland.com>;

Venkatesh C (Sourcing and Supply Chain) <Venkatesh.C@ashokleyland.com>; Prasad Rao A.V.S.R.V (Centre Of Cost Excellence) <Prasadrao.AVSRV@ashokleyland.com>; Ravi T (Sourcing and Supply Chain) <Ravi.T@ashokleyland.com>; Deepak Kumar Mittal (Head-Centre Of Cost Excellence) <Deepakkumar.Mittal@ashokleyland.com>

Subject: ABS Sensor Cable Mass Approval Note

Dear Mr. Mithun,

Thanks for your support for completion of all internal DVVP and plant trial on Sensor Cable cross section reduction on time.

Please find attached PD approval Note for the same.

Please implement on urgent basis and confirm cutoff date.

Thanks & Regards,

AJEET PATEL

+91 9500023662

cid:image004.jpg@01D2C4B3.0208D8D0

From: Selvaraj, Mithun <mithun.s@wabco-auto.com>

Sent: Thursday, December 13, 2018 5:45 PM

To: Ajeet Patel (Centre Of Cost Excellence) <Ajeet.Patel@ashokleyland.com>

Cc: G Srinivasabalaji -LOGISTICS-M&L-WINC <srinivasabalaji.g@wabco-auto.com>; R Thiruvengkatachary -OE-MKT-WINC <thiruvengkatachary.r@wabco-auto.com>

Subject: Re: Supplier VAVE Workshop idea

Dear Mr.Ajeet Patel,

The part number is 449766xxx0 .

On which XXX corresponds to length.

For example for 2.5m cable length the part number will be 449766**0250**

Thanks for the understanding.

Best Regards

S.Mithun

On Thu, Dec 13, 2018 at 1:22 PM Ajeet Patel (Centre Of Cost Excellence) <Ajeet.Patel@ashokleyland.com> wrote:

Please provide only child part number to add in PD approval Note

Thanks & Regards,

AJEET PATEL

+91 9500023662

 cid:image004.jpg@01D2C4B3.0208D8D0

From: Selvaraj, Mithun <mithun.s@wabco-auto.com>

Sent: Thursday, December 13, 2018 11:44 AM

To: Ajeet Patel (Centre Of Cost Excellence) <Ajeet.Patel@ashokleyland.com>

Cc: G Srinivasabalaji -LOGISTICS-M&L-WINC <srinivasabalaji.g@wabco-auto.com>; R Thiruvenkatachary -OE-MKT-WINC <thiruvenkatachary.r@wabco-auto.com>

Subject: Re: Supplier VAVE Workshop idea

Dear Mr.Ajeet Patel,

The sensor Extension is WABCO propitiatory and the child part drawings cannot be shared.

Thanks for the understanding.

Best regards

S.Mithun

On Tue, Dec 11, 2018 at 1:54 PM Ajeet Patel (Centre Of Cost Excellence) <Ajeet.Patel@ashokleyland.com> wrote:

Dear Mithun

Request you to provide your internal part number and drawing of child parts which you are changing

Sensor Cable Wire - (revision for cross section reduction from 0.75 Sq mm to 0.50 Sq mm with sheath)

Thanks & Regards,

AJEET PATEL

+91 9500023662

cid:image004.jpg@01D2C4B3.0208D8D0

From: Mithun -OE-MKT-WINC, S <mithun.s@wabco-auto.com>

Sent: Wednesday, October 10, 2018 5:04 PM

To: Ajeet Patel (Centre Of Cost Excellence) <Ajeet.Patel@ashokleyland.com>; G Srinivasabalaji -LOGISTICS-M&L-WINC <srinivasabalaji.g@wabco-auto.com>

Cc: Vetriselvan N (Sourcing) <Vetriselvan.N1@ashokleyland.com>; Venkatesh C (Sourcing and Supply Chain) <Venkatesh.C@ashokleyland.com>; Prasad Rao A.V.S.R.V (Centre Of Cost Excellence) <Prasadrao.AVSRV@ashokleyland.com>; Alexander George (PD) <Alexander.George@ashokleyland.com>; R Thiruvengkatachary -OE-MKT-WINC <thiruvengkatachary.r@wabco-auto.com>; R , Jayashankar <jayashankar.r@wabco-auto.com>; V Shankar -PRJ-WINC <Shankar.v@wabco-auto.com>; V Ramanathan -HOD-OE-MKT-WINC <Ramanathan.V@wabco-auto.com>; P Kaniappan -Managing Director-MDO-WINC <kaniappan.p@wabco-auto.com>; Anbazhagan R <anbazhagan.r@wabco-auto.com>; Vrijesh, Kumar Garg -OE-FSR-MKT-WINC <Vrijesh.Garg@wabco-auto.com>; K Ebenesan -S&P-WINC <ebenesan.k@wabco-auto.com>

Subject: Re: Supplier VAVE Workshop idea

Dear Mr.Ajeet,

Please find the details.

- Test report for SE cable reduction - Attached herewith
- Sample (F0J02300) with SE cable CS reduction and connector change will be dispatched to Hosur
- Inspection report will be shared shortly

F0J02300 sample to Hosur:

image.png

@G Srinivasabalaji -LOGISTICS-M&L-WINC I will share you the dispatch details please plan for FTR at Hosur

Thanks for the understanding.

Best Regards

S.Mithun

On Wed, Oct 10, 2018 at 4:18 PM Ajeet Patel (Centre Of Cost Excellence) <Ajeet.Patel@ashokleyland.com> wrote:

Dear Mithun

Please close this long pending activity on priority

VAVE Sample F0J00399 dispatch confirmation to H2

Test report

PDI report

Urgent please

Thanks & Regards,

AJEET PATEL

+91 9500023662

cid:image004.jpg@01D2C4B3.0208D8D0

From: Ajeet Patel (Centre Of Cost Excellence)

Sent: Friday, September 21, 2018 12:32 PM

To: Mithun -OE-MKT-WINC, S <mithun.s@wabco-auto.com>

Cc: Vetriselvan N (Sourcing) <Vetriselvan.N1@ashokleyland.com>; Venkatesh C (Sourcing and Supply Chain) <Venkatesh.C@ashokleyland.com>; Prasad Rao A.V.S.R.V (Centre Of Cost Excellence) <Prasadrao.AVSRV@ashokleyland.com>; Alexander George (PD) <Alexander.George@ashokleyland.com>

Subject: RE: Supplier VAVE Workshop idea

Mithun,

Please find attached Runner model part number to prepare sample **F0J00399**

Thanks & Regards,

AJEET PATEL

+91 9500023662

cid:image004.jpg@01D2C4B3.0208D8D0

From: Ajeet Patel (Centre Of Cost Excellence)
Sent: Friday, September 21, 2018 11:41 AM
To: Mithun -OE-MKT-WINC, S <mithun.s@wabco-auto.com>
Cc: Vetriselvan N (Sourcing) <Vetriselvan.N1@ashokleyland.com>; Venkatesh C (Sourcing and Supply Chain) <Venkatesh.C@ashokleyland.com>; Prasad Rao A.V.S.R.V (Centre Of Cost Excellence) <Prasadrao.AVSRV@ashokleyland.com>
Subject: Supplier VAVE Workshop idea

Dear Mr. Mithun,

We discussed please provide me below details related to VAVE workshop at your end

1. ABS harness cross section reduction 0.75 to 0.50 –

- a. please submit one sample on FOC basis to AL -VVC on existing part number – confirm date?
- b. Also send writeup that it is tested at your end and you have started supply to other OEM and AL can directly go for implementation.
- c. Delta saving with cross section reduction ?

2. Connector localization

Please provide PPT for suggested proposal – before -after along with saving details

Thanks & Regards,

AJEET PATEL

+91 9500023662

cid:image004.jpg@01D2C4B3.0208D8D0

From: Mithun -OE-MKT-WINC, S <mithun.s@wabco-auto.com>
Sent: Friday, September 21, 2018 11:18 AM
To: Ajeet Patel (Centre Of Cost Excellence) <Ajeet.Patel@ashokleyland.com>
Subject: Check mail

FYI

4/12/2019

WABCO Mail - Fwd: AL harness SE Cable CRP - Mass approval note

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Best Regards
S.Mithun
8939870147



Mass Approval Note ABS wiring harness.pdf

228K

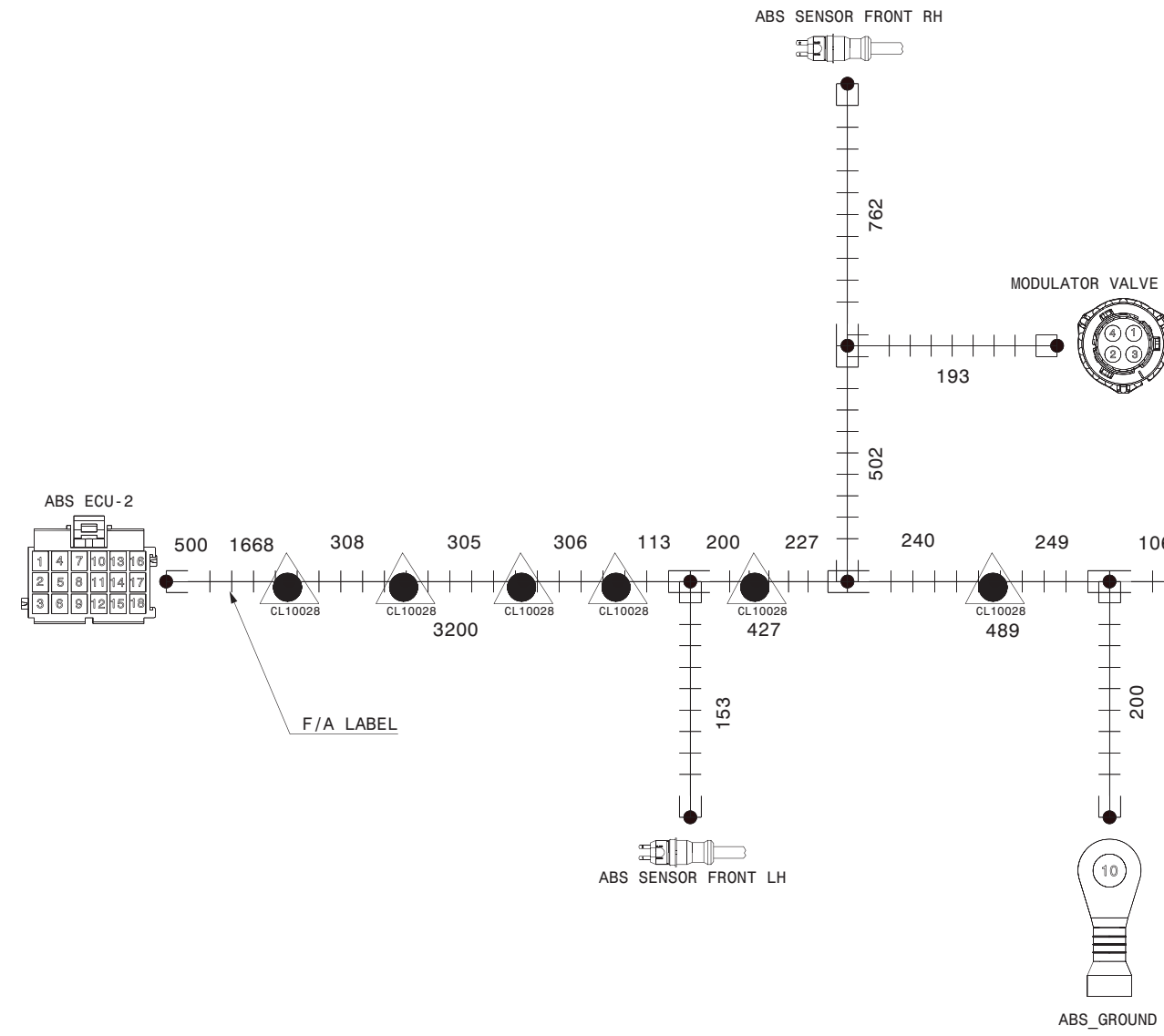
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ASHOK LEYLAND LTD.
TECHNICAL CENTRE, VELLIVOLCHAVADI

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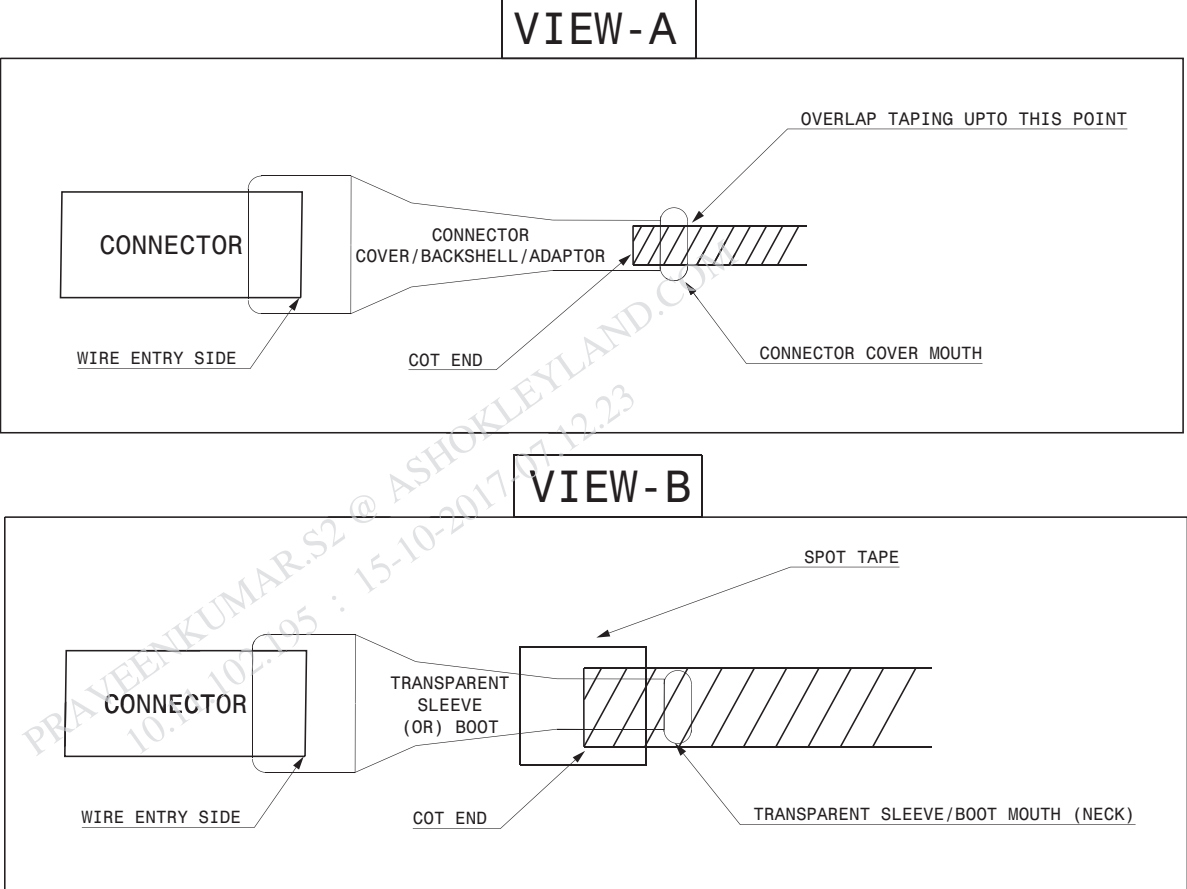
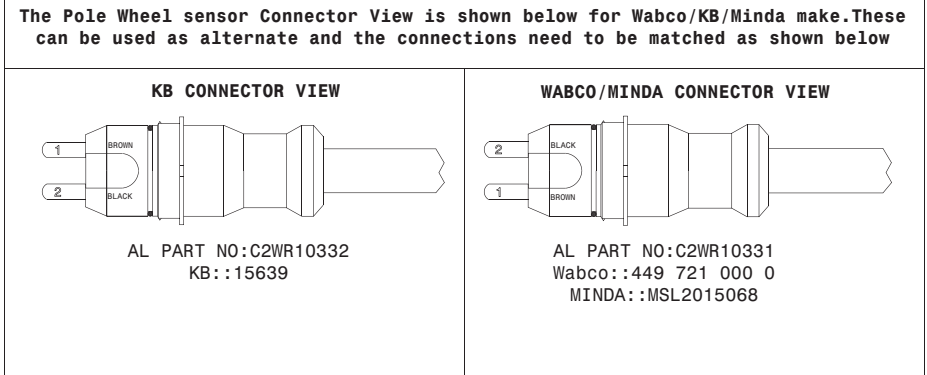
ASHOK FIRST ANGLE PROJECTION - COMPUTERISED DRAWING - DO NOT CHANGE MANUALLY



NOTES :
CRITICAL/SAFETY/CMVR/MOOD REQUIREMENTS:
1. ALL PVC WIRE CROSS SECTION TO MEET DIN 72551 OR IS/ISO 6722 CLASS B.
2. WIRING HARNESS TESTING SHALL BE ACCORDING TO IS/ISO 6722 AND JIS C3406.
3. SLIT TYPE FRPP GRADE YELLOW COLOUR CORRUGATED TUBE TO BE USED AND SHALL MEET FLAMMABILITY REQUIREMENTS AS PER IS 15061
4. END OF LIFE VEHICLE (ELV) TO COMPLY WITH 2000/53/EC
5. ALL TWISTED WIRES SHALL BE TWISTED AS PER BELOW:
a. THE TWISTED LENGTHS SHALL BE FROM MINIMUM 1CM TO MAXIMUM 2.5CM.
GENERAL:
1. ALL DIMENSIONS ARE IN MM.
2. ALL DIMENSIONS ARE UPTO THE REAR END OF THE CONNECTORS AND CENTRE OF EYELETS.
3. ALL THE INTERMEDIATE DIMENSIONS SHALL BE BROUGHT TO THE NEAREST VALUE AT POSITIVE SIDE ('0' OR '5').
4. ALL EYELET CRIMPED AREAS AND SPlice JOINTS TO BE COVERED WITH JELLY FILLED HEAT SHRINK TUBE AND SHALL MEET UL224 FLAMMABILITY REQUIREMENTS.
5. END TAPING TO BE DONE AT THE END OF THE CORRUGATED TUBE AND ON TRANSPARENT SLEEVES OR WIRES.
6. PERMISSIBLE TOLERANCE FOR BRANCHES ARE:
UP TO 200mm: +10mm
201-500MM: +20mm
501-700MM: +30mm
701-1000mm: +40mm
1001-2000mm: +80mm
> 2000mm: >3%
6. AL PART / SUPPLIER PART NUMBER TO BE MARKED LEGIBLY ON A LABEL (LABEL PROPERTIES SAME AS POINT NO:8)
7. VINYL MATERIAL WITH ACRYLIC ADHESIVE AND VH GRADE INK TYPE IDENTIFICATION TAG TO BE PROVIDED TO ALL END CONNECTORS .
8. GREEN COLOUR IDENTIFICATION TAPE TO BE PROVIDED FOR START OF ASSEMBLY(SOA) AS PER SPECIFIED LOCATION IF MENTIONED.
9. WIRING HARNESS TO BE PLACED IN INDIVIDUAL POLYTHENE BAG.
10. WIRING HARNESSES TO BE KEPT FREE FROM DUST, OIL AND MOISTURE FREE ENVIRONMENT.
11. INTERNAL STORAGE/TRANSPORTATION OF HARNESSES TO BE MADE IN TRAYS/BINS.
12. CORRUGATED TUBES BRANCH NODES SHALL BE COVERED APPROPRIATE 'T'/ 'Y' JOINTS (OR) WITH BLACK PVC TAPES.
13. SPlice JOINTS TO BE ULTRASONIC WELDED
WIRES:
1. ENTANGLING OF WIRES IS NOT PERMISSIBLE WHILE INSERTING INTO THE CONNECTORS.
2. SPIRAL BLACK PVC TAPPING SHALL BE DONE OVER THE WIRE BUNDLE.
3. SUFFICIENT WIRE DIMENSIONS TO BE MAINTAINED BY THE SUPPLIER TO ENSURE WIRES ARE NOT STRESSED FROM REAR END OF CONNECTORS TO THE TERMINAL CRIMPED AREA .
CONNECTORS:
1. VIEW OF ALL CONNECTORS ARE SHOWN FROM CABLE INSERTION SIDE.
2. SELECT APPROPRIATE TERMINALS, WIRE SEALS & DUMMY SEALS FOR CONNECTORS AS APPLICABLE.
3. SUITABLE TRANSPARENT SLEEVE TO BE PROVIDED FOR ALL NON-WATER PROOF CONNECTORS .
CORRUGATED TUBES:
1. FULL YELLOW PVC TAPING SHALL BE DONE OVER THE CORRUGATED TUBE COVERING THE FULL WIRING HARNESS.
2. NO WIRES SHALL BE VISIBLE AFTER TAPING AT BRANCH NODES.
FUSES:
1. PACIFIC / LITTEL MAKE FUSES TO BE USED.

SURFACE PROTECTION	-
ASHOK	THIS DRG. CONTAINS @ CRITICAL @ SAFETY @ IMPORTANT CHARACTERISTICS
LEYLAND	UNLESS OTHERWISE SPECIFIED
TOLERANCES	REFER IS:2102; MEDIUM FOR MACHINING AND COARSE FOR FABRICATION
SURFACE PROTECTION	TO MEET THE REQUIREMENT OF ALS.268.03
SURFACE FINISH AS PER IS:3073 (CLA VALUE)	METRIC SCREW THREADS SHALL CONFORM TO THE LIMITS AND TOLERANCES SPECIFIED IN THE CURRENT IS:4218 CLASS 6g EXTERNAL OR 6h INTERNAL. SHARP EDGES TO BE REMOVED DIMENSIONS ARE IN MM DO NOT SCALE DRAWING

SPECIAL INSTRUCTIONS/NOTE:
1. TIGHTNESS OF THE CLIPS SHOULD BE SUCH THAT THE ROTATIONAL & TRANSLATIONAL MOVEMENTS ARE POSSIBLE ON APPLICATION OF EXTERNAL FORCE/TORQUE.
2. - TRANSPARENT SLEEVE NOT REQUIRED
3. BRANCHES HAVING TRANSPARENT SLEEVES/BOOTS SHALL BE LEFT BARE NEAR THE WIRE INSERTION SIDE, TO THE POINT WHERE THE COT COVERS THE NECK OF THE SLEEVE/BOOT OR VICE VERSA (Refer View B)
4. COT SIZES TO BE CHOSEN SUCH THAT THE COT OUTER DIA MATCHES WITH THE CONNECTOR WIRE COVER (REFER VIEW-A)



S.No	Color	Code	S.No	Color	Code
1	Black	B	20	Blue/Green	L/G
2	Blue	L	21	Blue/Red	L/R
3	Sky Blue	Sb	22	Blue/Yellow	L/Y
4	Brown	Br	23	Brown/Green	Br/G
5	Green	G	24	Grey/Black	Gr/B
6	Grey	Gr	25	Grey/Red	Gr/R
7	Orange	O	26	Orange/Black	O/B
8	Pink	P	27	Orange/Blue	O/L
9	Red	R	28	Orange/Green	O/G
10	White	W	29	Orange/Grey	O/Gr
11	Violet	V	30	Orange/White	O/W
12	Yellow	Y	31	Red/Black	R/B
13	Yellow/Green	Y/G	32	Red/Green	R/G
14	Black/Green	B/G	33	Red/White	R/W
15	Black/grey	B/Gr	34	Red/Yellow	R/Y
16	Black/Red	B/R	35	White/Black	W/B
17	Black/White	B/W	36	White/Blue	W/L
18	Black/Yellow	B/Y	37	White/Green	W/G
19	Blue/Brown	L/Br	38	White/Red	W/R

	BARE WIRE
	CORRUGATED TUBE
	PVC TAPE
	EMI/EMC TWIST TUBE
	PVC TUBE
	FLEX GUARD
	PVC TUBE + REFERENCE TAPE
	COT + REFERENCE TAPE
	COT + REFLEX WRAP
	COT + CLOTH TAPE
	CLOTH TAPE
	TWIST TUBE
	COT + TWIST TUBE
	CLIP
	SPLICE
	NODE
	NODE WITH TERMINAL (OR) CONNECTOR
	TRANSPARENT SLEEVE
	GROMMET
	EYELET

BILL OF MATERIALS			
APPEARANCE ITEM	ER-DIN	DATE	
YES	NO	0026507	03.07.2015
FINISHED WEIGHT (APPROX)	REF. PT. No.	----	
3.0 Kgs	S/A PT NO.	----	
SCALE	SUPERSEDES	----	
NTS	SPEC NO.	----	

ALTERATIONS		ER-DIP DATE	OWNER	SUBMITTA		
1. MAIN BRANCH LENGTH INCREASED FROM 2564 TO 2964MM 2. FIR TREE CLIP ADDED 3. NOTES UPDATED		CA-0003495 18.08.17		A		
AL PLM VAULT						
REVISION : A		DATE : 28/8/2017	STATUS : RELEASE			
STAGE : III		ER-DIN NO : CA-0003495	DATE : 28/8/2017			
ALTERED BY : dmbabu		CHECKED BY : GKALYVC				
MED APPROVAL : PAWANKUMAR.PATHI		APPROVED BY : sigalvc				
DIGITALLY SIGNED - PHYSICAL SIGNATURE NOT REQUIRED						
DRAWN/ DATE	CHECKED/ DATE	MED APPROVAL/ DATE	APPROVED/ DATE	STDS APP/ DATE		
CDB	SMK	PAWANI	TAV	----		
27.06.2015	27.06.2015	27.06.2015	27.06.2015	-----		
MATERIAL						
-----/-----/-----						
HEAT TREATMENT						

REMARKS						
FOR U2518 LWB						
DESCRIPTION						
WIRING HARNESS-ABS BRAKE -U2518L1 4600WB						
PART No.						
F O J O 4 7 0 0 A						
SHEET NO.....1.....OF.....2.....						
A1						

THIS DOCUMENT TO BE USED ONLY WITHIN WABCO AND BY THE INDICATED CUSTOMER.

General Specification: IEC 334-1 Size 150 MMx20 LF		Copyright WABCO®		WABCO	
Further Technical Data: 449 011 000 0		Date: 2015-05-30		User Code: 005	
Doc. Code: 449 011 000 0		Version: 01		Title: WIRING HARNESS-ABS - 4S/3M FRAME	
General Tolerances: IEC 201		2015-05-30		Mohamed M	
Range of Nominal Dimensions (± mm)		Arbuzhagan		Arbuzhagan	
Class		Arbuzhagan		Arbuzhagan	
1. 50 ± 0.10		2. 100 ± 0.15		3. 150 ± 0.20	
4. 200 ± 0.25		5. 250 ± 0.30		6. 300 ± 0.35	
7. 350 ± 0.40		8. 400 ± 0.45		9. 450 ± 0.50	
10. 500 ± 0.55		11. 550 ± 0.60		12. 600 ± 0.65	
13. 650 ± 0.70		14. 700 ± 0.75		15. 750 ± 0.80	
16. 800 ± 0.85		17. 850 ± 0.90		18. 900 ± 0.95	
19. 950 ± 1.00		20. 1000 ± 1.05		21. 1050 ± 1.10	
22. 1100 ± 1.15		23. 1150 ± 1.20		24. 1200 ± 1.25	
25. 1250 ± 1.30		26. 1300 ± 1.35		27. 1350 ± 1.40	
28. 1400 ± 1.45		29. 1450 ± 1.50		30. 1500 ± 1.55	
31. 1550 ± 1.60		32. 1600 ± 1.65		33. 1650 ± 1.70	
34. 1700 ± 1.75		35. 1750 ± 1.80		36. 1800 ± 1.85	
37. 1850 ± 1.90		38. 1900 ± 1.95		39. 1950 ± 2.00	
40. 2000 ± 2.05		41. 2050 ± 2.10		42. 2100 ± 2.15	
43. 2150 ± 2.20		44. 2200 ± 2.25		45. 2250 ± 2.30	
46. 2300 ± 2.35		47. 2350 ± 2.40		48. 2400 ± 2.45	
49. 2450 ± 2.50		50. 2500 ± 2.55		51. 2550 ± 2.60	
52. 2600 ± 2.65		53. 2650 ± 2.70		54. 2700 ± 2.75	
55. 2750 ± 2.80		56. 2800 ± 2.85		57. 2850 ± 2.90	
58. 2900 ± 2.95		59. 2950 ± 3.00		60. 3000 ± 3.05	
61. 3050 ± 3.10		62. 3100 ± 3.15		63. 3150 ± 3.20	
64. 3200 ± 3.25		65. 3250 ± 3.30		66. 3300 ± 3.35	
67. 3350 ± 3.40		68. 3400 ± 3.45		69. 3450 ± 3.50	
70. 3500 ± 3.55		71. 3550 ± 3.60		72. 3600 ± 3.65	
73. 3650 ± 3.70		74. 3700 ± 3.75		75. 3750 ± 3.80	
76. 3800 ± 3.85		77. 3850 ± 3.90		78. 3900 ± 3.95	
79. 3950 ± 4.00		80. 4000 ± 4.05		81. 4050 ± 4.10	
82. 4100 ± 4.15		83. 4150 ± 4.20		84. 4200 ± 4.25	
85. 4250 ± 4.30		86. 4300 ± 4.35		87. 4350 ± 4.40	
88. 4400 ± 4.45		89. 4450 ± 4.50		90. 4500 ± 4.55	
91. 4550 ± 4.60		92. 4600 ± 4.65		93. 4650 ± 4.70	
94. 4700 ± 4.75		95. 4750 ± 4.80		96. 4800 ± 4.85	
97. 4850 ± 4.90		98. 4900 ± 4.95		99. 4950 ± 5.00	
100. 5000 ± 5.05		101. 5050 ± 5.10		102. 5100 ± 5.15	
103. 5150 ± 5.20		104. 5200 ± 5.25		105. 5250 ± 5.30	
106. 5300 ± 5.35		107. 5350 ± 5.40		108. 5400 ± 5.45	
109. 5450 ± 5.50		110. 5500 ± 5.55		111. 5550 ± 5.60	
112. 5600 ± 5.65		113. 5650 ± 5.70		114. 5700 ± 5.75	
115. 5750 ± 5.80		116. 5800 ± 5.85		117. 5850 ± 5.90	
118. 5900 ± 5.95		119. 5950 ± 6.00		120. 6000 ± 6.05	
121. 6050 ± 6.10		122. 6100 ± 6.15		123. 6150 ± 6.20	
124. 6200 ± 6.25		125. 6250 ± 6.30		126. 6300 ± 6.35	
127. 6350 ± 6.40		128. 6400 ± 6.45		129. 6450 ± 6.50	
130. 6500 ± 6.55		131. 6550 ± 6.60		132. 6600 ± 6.65	
133. 6650 ± 6.70		134. 6700 ± 6.75		135. 6750 ± 6.80	
136. 6800 ± 6.85		137. 6850 ± 6.90		138. 6900 ± 6.95	
139. 6950 ± 7.00		140. 7000 ± 7.05		141. 7050 ± 7.10	
142. 7100 ± 7.15		143. 7150 ± 7.20		144. 7200 ± 7.25	
145. 7250 ± 7.30		146. 7300 ± 7.35		147. 7350 ± 7.40	
148. 7400 ± 7.45		149. 7450 ± 7.50		150. 7500 ± 7.55	
151. 7550 ± 7.60		152. 7600 ± 7.65		153. 7650 ± 7.70	
154. 7700 ± 7.75		155. 7750 ± 7.80		156. 7800 ± 7.85	
157. 7850 ± 7.90		158. 7900 ± 7.95			

