

8

7

6

5

4

3

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B

A

(DEC 99)

210 ±3 [8.27 ±.11]

297 ±3 [11.69 ±.11]

98-60803-XX

ARTWORK

VERS
PAGE2
SIZE A4

RECTO
PAGE 1
SIZE A4

98-60803-XX

105[4.13]

148.5[5.85]

NUMERO DE CODE CTD: 98-60803-00.
[CTD PART NO.: 98-60803-00.]

FOURNISSEUR: XX OU EQUIVALENT AGREE PAR LE SERVICE ENGINEERING.
[SUPPLIER: XX OR ENGINEERING APPROVED EQUIVALENT.]

NUMERO DE PIECE FOURNISSEUR: NUMERO DE CODE CTD.
[SUPPLIER PART NO.: SAME AS CTD PART NUMBER.]

INITIAL MODEL: SUPRA S/SUPRA HE

SPECIFICATIONS:
[SPECIFICATIONS:]

1.0 APPLICATION SPECIFIQUE: EQUIPEMENT DE REFRIGERATION DE TRANSPORT.
[SPECIFIC APPLICATION: TRANSPORT REFRIGERATION EQUIPEMENT.]

2.0 MATIERE: PAPIER.
[MATERIALS: PAPER.]

3.0 EPAISSEUR: 80 GR/M2.
[THICKNESS: 80GR PER SQUARE METER.]

4.0 COULEUR MATIERE: BLANC.
[MATERIAL COLOR: WHITE.]

5.0 IMPRESSION: NOIRE EN RECTO VERSO.
[PRINTING: BLACK ON BOTH SIDES.]

6.0 PROPRETE: LE DOCUMENT DOIT ETRE PROPRE ET SANS CONTAMINANTS.
[CLEALINESS: THE DOCUMENT MUST BE CLEAN AND FREE OF CONTAMINANTS.]

7.0 MARQUAGE: LE NUMERO DE CODE CTD DOIT ETRE MARQUE SUR L'EMBALLAGE.
[MARKING: CTD PART NO. (SEE CHART) INCLUDING REVISION LETTER
MUST BE MARKED ON SHIPPING CONTAINER. IN ADDITION,
THE PART(S) SHIPPING CONTAINER(S) MUST BE MARKED
IN ACCORDANCE WITH U.S. CODE OF FEDERAL REGULATION (CFR)
19-S, PARTS 134, COUNTRY OF ORIGIN MARKING REQUIREMENTS.]

8.0 EMBALLAGE: DOIT PROTEGER EFFICACEMENT LES PRODUITS CONTRE LES
POUSSIERES, L'HUMIDITE ET LES CHOCES DU AU TRANSPORT.
[PACKAGING: MUST BE ADEQUATE TO PROTECT PARTS FROM SHIPPING
DAMAGE, DIRT AND CORROSIVE ELEMENTS.]

MATERIAUX DANGEREUX : IL EST DEMANDE AU FOURNISSEUR DE SE CONFORMER
A LA PROCEDURE 57-00765 "MATERIAUX DANGEREUX, EXIGENCES APPLICABLES
AU FOURNISSEUR POUR LEUR IDENTIFICATION ET LEUR ELIMINATION".
[MATERIAL OF CONCERN : THE SUPPLIER IS REQUIRED TO COMPLY WITH CTD
ENGINEERING REQUIREMENT 57-00765, MATERIAL OF CONCERN, SUPPLIER CRITERIA
FOR IDENTIFICATION & ELIMINATION.]

FEATURES IDENTIFIED WITH THE SYMBOL [AMC] HAVE BEEN IDENTIFIED AS CRITICAL
TO SAFETY, FUNCTIONALITY, OR PRODUCIBILITY AND ARE TO BE MANAGED
ACCORDING TO AN APPROVED ALTERNATE MEANS OF CONTROL AS DEFINED IN
CARRIER REFRIGERATION ENGINEERING SUPPLIER REQUIREMENTS DOCUMENT 57-00869-00

CTD GLOBAL DESIGN & DRAFTING STANDARD 13.94 DESCRIBES ⊗, △ AND ▴ SYMBOLS
AS DENOTING FEATURES CRITICAL WITH RESPECT TO FIT, FORM AND SIZE. THESE FEATURES
MUST BE CONTROLLED PER REQUIREMENTS OF THE SUPPLIER QUALITY MANUAL AND / OR
OPERATIONS PROCESS CERTIFICATION STANDARD WORK.

AUCUN CHANGEMENT DE LA DEFINITION, APPROUEE PAR UN ECHANTILLON INITIAL
OU PAR SPECIFICATIONS (DISPONIBLE A CARRIER TRANSICOLD ENGINEERING)
NE PEUT ETRE FAIT SANS CONTACTER LE SERVICE ACHAT DE CARRIER TRANSICOLD
AFIN D'OBTENIR L'ACCORD DES SERVICES QUALITE ET ENGINEERING.

[NO DEVIATION FROM THE CONSTRUCTION DEFINED BY AN APPROVED SAMPLE
OR DETAILED SPECIFICATION (ON FILE IN CARRIER TRANSICOLD ENGINEERING)
WILL BE MADE WITHOUT CONTACTING CARRIER TRANSICOLD PURCHASING
DEPARTMENT TO OBTAIN ENGINEERING AND QUALITY DEPARTMENT APPROVALS.]

C	ADDED -01 RECHAUFFEUR GAZOIL AND ADDED SHEET 3 AND UPDATE NOTE ETAPE 8,11,14 & 17.	08 NOV 23	LANUZEL/ LT-AR			1172131
B	MODIF SHEET 2 & 3, ADDED SHEET 4	25 NOV 20	B.BOMBARD			1137651
A	INITIAL RELEASE	12 MAY 2020	LT-RG			1131206
SYM	REVISION RECORD	DATE	BY	ENGR.	M.E.	NPCA NO.

CAD SYSTEM: <i>Creo Parametric</i>		METRIC FORMAT: UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS, WITH IMPERIAL CONVERSIONS IN [INCHES].		Carrier TRANSICOLD Carrier Transicold Industries 810, route de Paris Boite Postale 16 76520 Franqueville Saint Pierre France R.C. Rouen 8 410 041 677	
FIRST ANGLE PROJECTION		TOLERANCES SAUF INDICATIONS PARTICULIERES: UNLESS OTHERWISE SPECIFIED TOLERANCES ON:		THIS DOCUMENT AND THE INFORMATION CONTAINED THEREIN IS PROPRIETARY TO CARRIER CORPORATION AND SHALL NOT BE USED OR DISCLOSED TO OTHERS, IN WHOLE OR IN PART, WITHOUT THE WRITTEN AUTHORIZATION OF CARRIER CORPORATION.	
MATERIAL:		GENERALES		ANG	
		±1 ±[.04]		±2°	
		SURFACES		HOLE LOC	
		✓ AA	HOLE DIA. +0.2 - 0 +[.008] -[.00]	HOLE SPACING ± 0.5 ±[.02] NON- CUMULATIVE	± 0.8 ±[.03]
		DIMENSIONS IN (PARENTHESIS) ARE FOR INFORMATION ONLY. TOLERANCES DO NOT APPLY.			
WEIGHT		MFG/PURCH M		NEXT DRAWING:	

TITLE		INST R FUEL WARMER	
[SUPRA S/SUPRA HE]			
SIZE	DRAWING NO.	REV	
A1	98-60803	C	
SHEET 1 of 4			
SCALE: NONE			

DO NOT REVISE THIS DRAWING WITHOUT REFERRING TO MODEL: 93-60181_G (AS SHOWN REVISION -.99)

SUPERSEDES:

SIMILAR TO:

PART CLASSIFICATION:US



98-60803-00



Carrier Transicold Industries
810, route de Paris
Boite Postale 16
76520 Franqueville Saint Pierre
France
R.C. Rouen 8 410 041 677

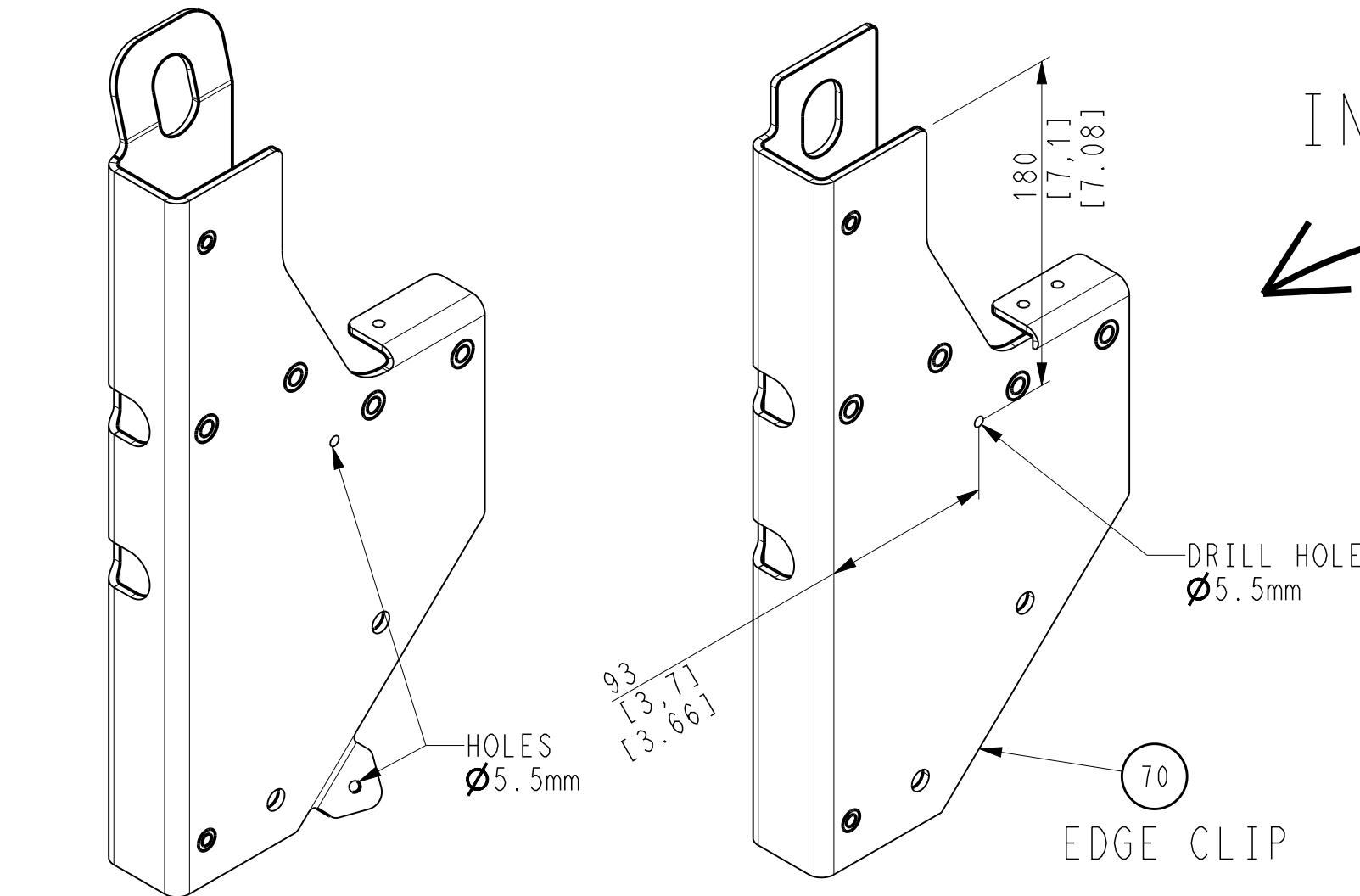
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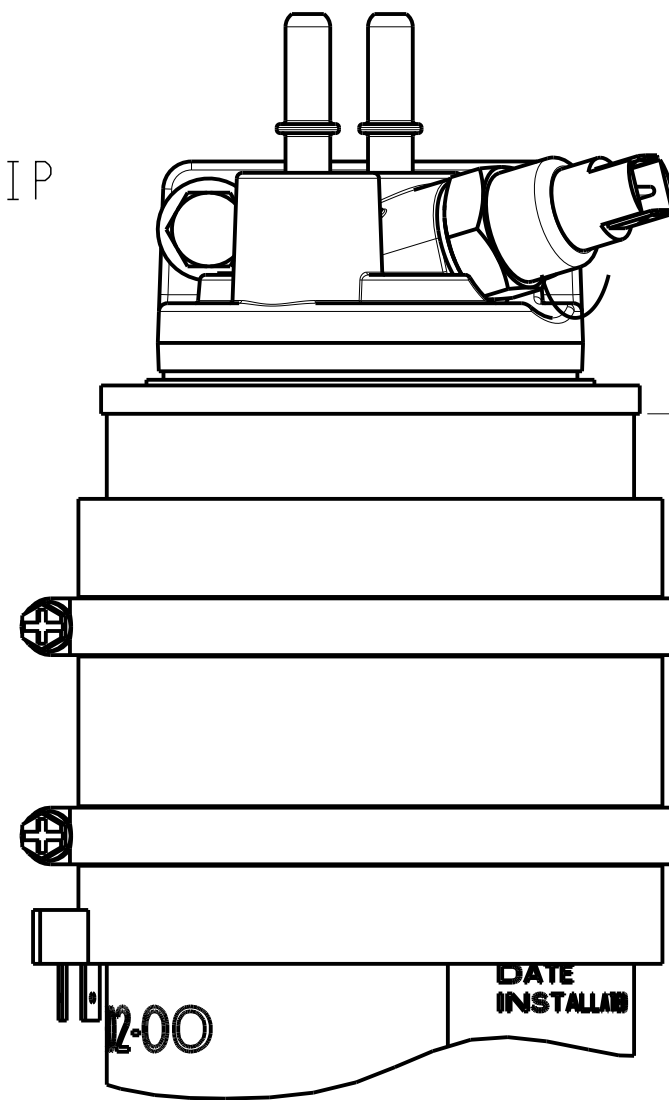
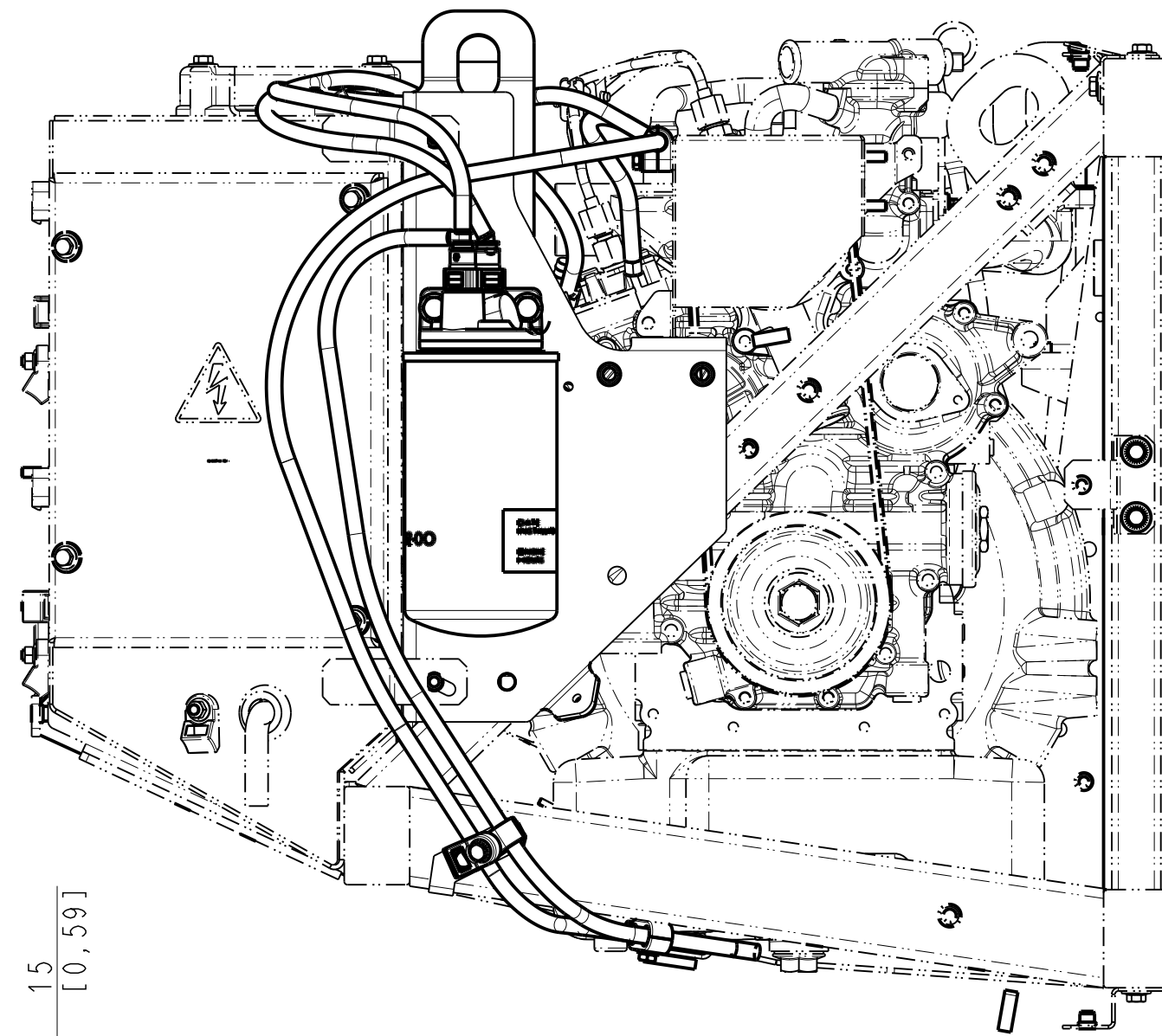
DESCRIPTION	PART NO.
FUEL HEATER KIT FOR SUPRA S/SUPRA HE W/O FH OPTION CONNECTOR	76-61592-00
FUEL HEATER KIT FOR SUPRA S WITH FH OPTION CONNECTOR	76-61592-01
FUEL HEATER KIT FOR SUPRA S WITH FH OPTION CONNECTOR	76-61592-04

AVANT TOUTE INTERVENTION, APPLIQUER LA PROCEDURE DE CONSIGNATION.
[BEFORE OPERATION, APPLY THE LOCK OUT/TAG OUT PROCEDURE.]

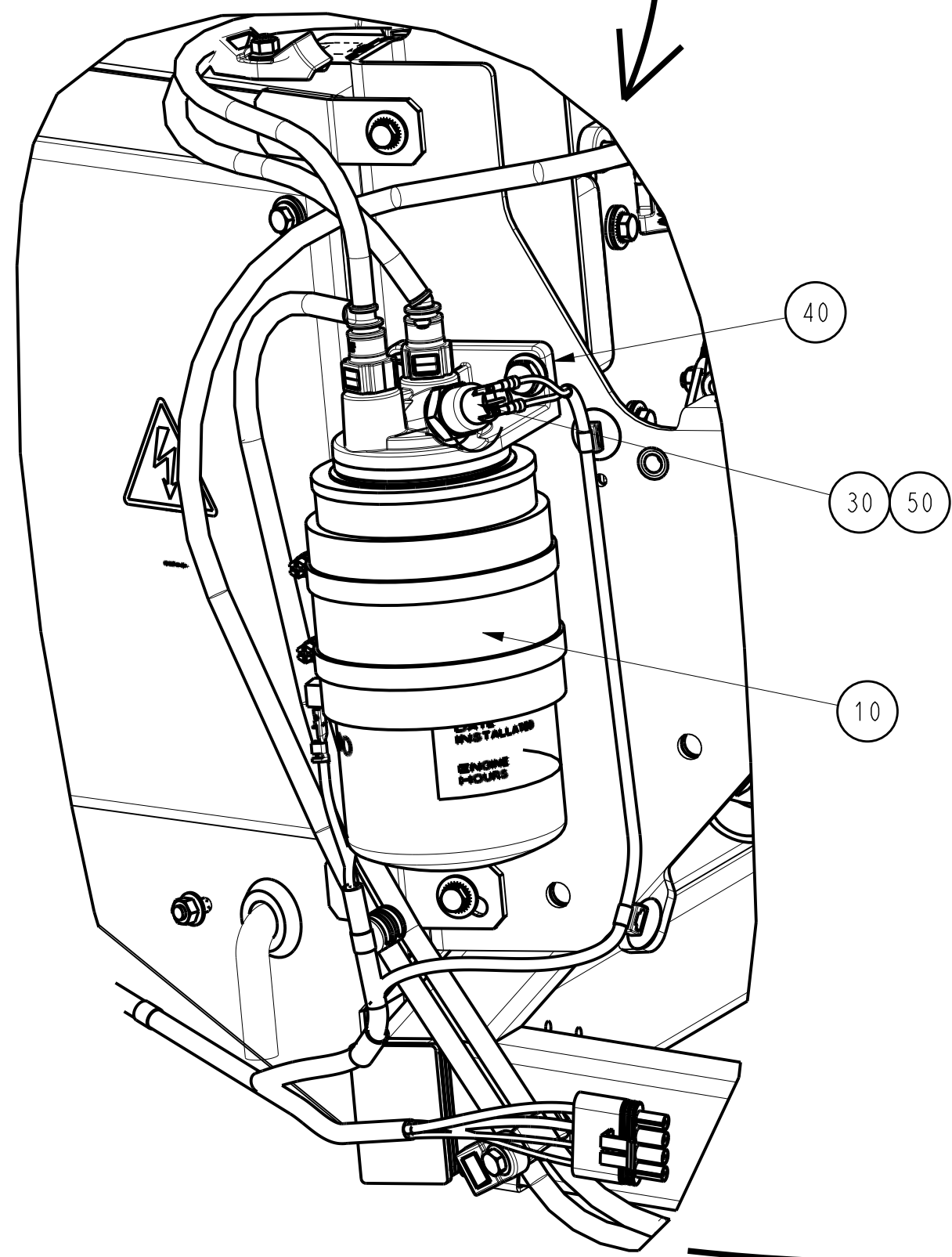
VIEW A
(FILTER BRACKET)



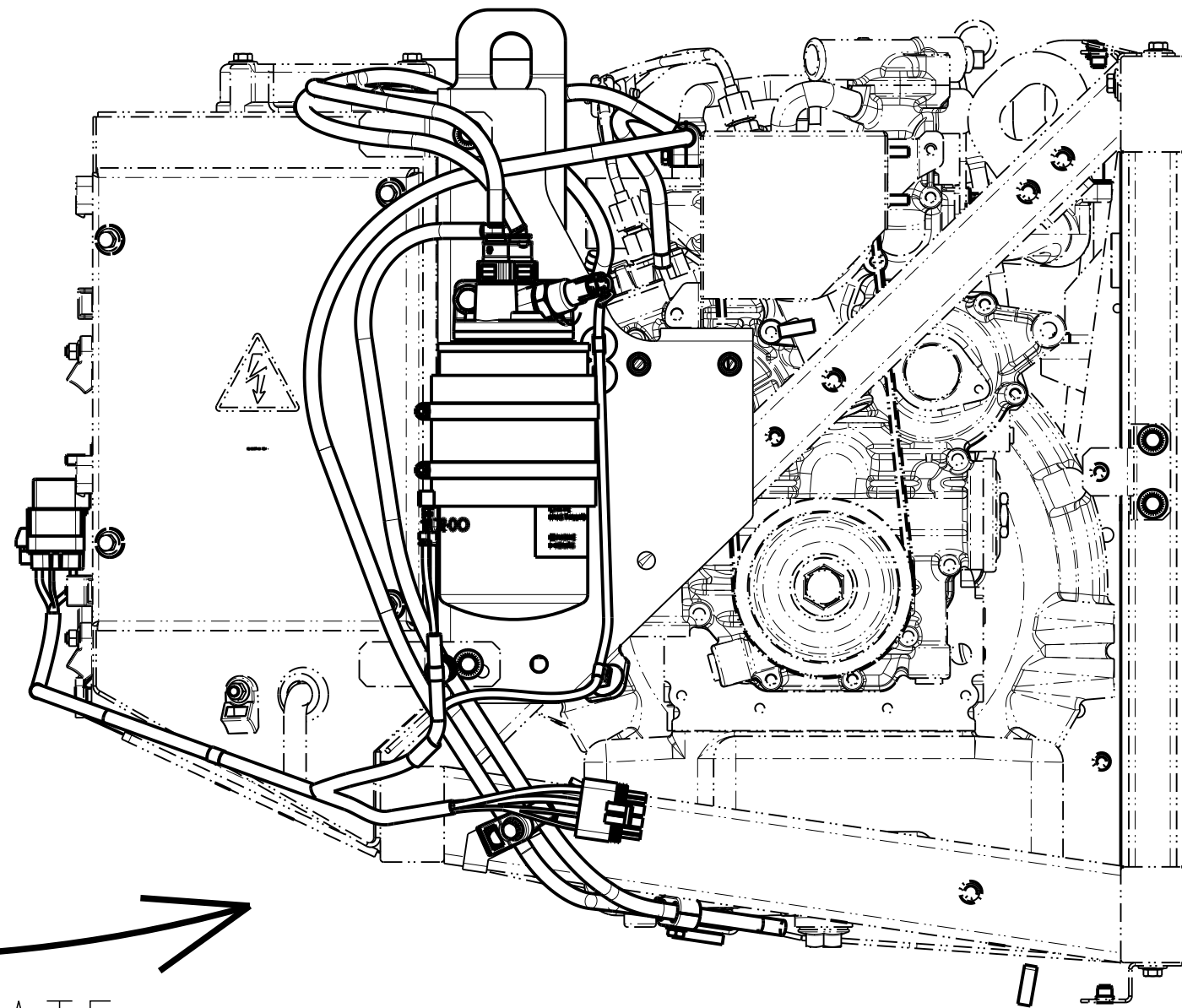
INITIAL STATE



POSITIONNEMENT DE L'ELEMENT CHAUFFANT
[HEATING ELEMENT POSITIONING]



FINAL STATE



MODIFICATION SUR LE FILTRE

- ETAPE 1: DECONNECTER LES FLEXIBLES ENTREE/SORTIE GASOIL
ETAPE 2: DEPOSER LA CARTOUCHE DU FILTRE
ETAPE 3: DEPOSER LA TETE DE FILTRE
ETAPE 4: SI LE SUPPORT FILTRE N'EST PAS EQUIPEE DE TROUS DIAMETRES 5.5mm, PERCER LE SUPPORT SUIVANT LA VUE A ET PLACER LE CLIP BORD DE TOLE (ITEM 70)
ETAPE 5: MONTER LA NOUVELLE TETE DE FILTRE (ITEM 40)
ETAPE 6: MONTER LE THERMOSTAT (ITEM 30) EN FAISANT L'ETANCHEITE AVEC LA BAGUE BS (IT 50) COUPLE DE SERRAGE: 20 Nm
ETAPE 7: VISSER LA CARTOUCHE DE FILTRE SUR LA TETE DE FILTRE
ETAPE 8: CAS RECHAUFFEUR -00 :
MONTER L'ELEMENT CHAUFFANT (ITEM 10) EN LE GLISSANT AUTOUR DU FILTRE PAR LE BAS (INTERDICTION D'ECARTER L'ELEMENT CHAUFFANT), LES COSSES VERS LE BAS. ORIENTER LES COSSES ET LES COLLIERES VERS LE COFFRET ELECTRIQUE. SERRER LES COLLIERES DE FIXATION : COUPLE DE SERRAGE DE 4Nm (UN CONTROLE EST OBLIGATOIRE APRES 5 CYCLES DE CHAUFFE)
CAS RECHAUFFEUR -01 :
MONTER L'ELEMENT CHAUFFANT AVEC LES FILS VERS LE BAS ET VERS LE COFFRET ELECTRIQUE. FIXER LE RECHAUFFEUR A L'AIDE DES RESSORTS.
ETAPE 9: RECONNECTER LES FLEXIBLES ENTREE (ROUGE)/SORTIE (NOIR) GASOIL

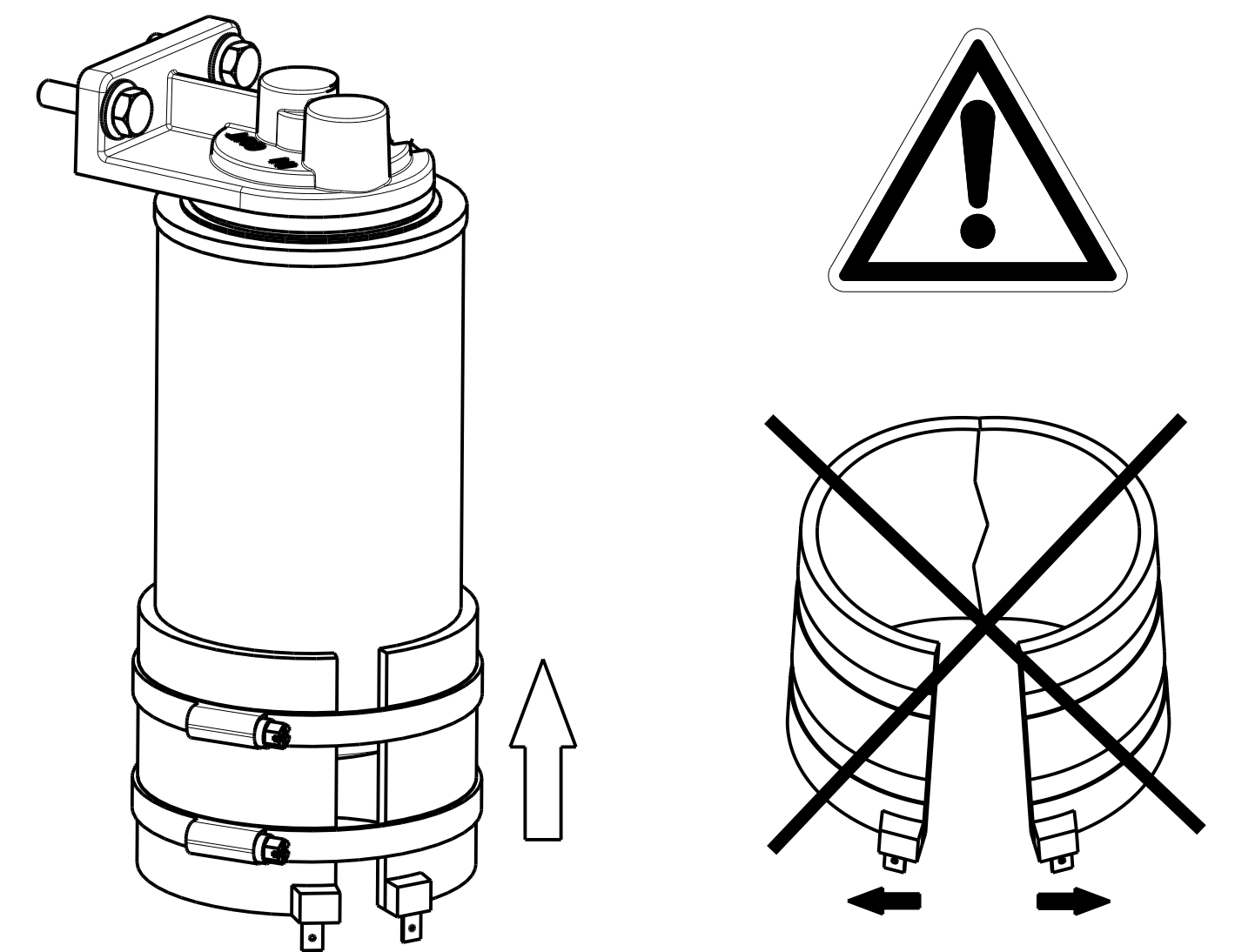
CHANGE ON THE FILTER

- STEP 1: DISCONNECT IN/OUT FUEL HOSES
STEP 2: REMOVE THE FILTER CARTRIDGE.
STEP 3: REMOVE THE FILTER HEAD
STEP 4: IF YOU DON'T HAVE 5.5 mm HOLE ON FILTERS BRACKET, DRILL AS DESCRIBED ON VIEW A & PLACE AN EDGE CLIP (ITEM 70)
STEP 5: MOUNT THE NEW FILTER HEAD (ITEM 40)
STEP 6: MOUNT THE THERMOSTAT (ITEM 30), SEALING WITH THE BONDED SEAL (ITEM 50) TIGHTENING TORQUE: 15 lbf-ft.
STEP 7: SCREW THE FILTER ONTO THE FILTER HEAD.
STEP 8: HEATER -00 :
MOUNT THE HEATING ELEMENT (ITEM 10) ON THE FILTER BY SLIDING IT AROUND THE FILTER FROM BELOW (DO NOT EXTEND THE HEATING ELEMENT), POINT THE TERMINALS DOWNWARDS. ORIENTATE TERMINALS AND WORM EDGE CLAMP TO CONTROL BOX. TIGHTENING THE FIXING CLAMP TIGHTENING TORQUE 2.9 lbf-ft. (A CHECK IS MANDATORY AFTER THE FIRST 5 HEATING CYCLES).
HEATER -01 : MOUNT THE HEATING ELEMENT (ITEM 10) WIRE DOWNWARDS AND ORIENTED TO CONTROL BOX. FIX HEATER WITH SPRINGS.
STEP 9: CONNECT FUEL HOSES ON FILTER HEAD (RED =IN/ BLACK=OUT)

-00

-01

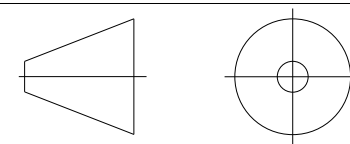
EXIGENCES D'INSTALLATION
[INSTALLATION'S REQUIREMENTS]



C	ADDED -01 RECHAUFFEUR GAZOIL AND ADDED SHEET 3 AND UPDATE NOTE ETAPE 8,11,14 & 17. REMOVED NOTE ETAPE 9. RENAMED ETAPE 9 WAS ETAPE 10. UPDATED VIEWS WITH FH OPTION CONNECTOR. ADDED -04 ROW IN CHART FOR FUEL HEATER KIT. UPDATED IMAGES FOR -01.	08 NOV 23	LANUZEL / LT-AR			1172131
SYM	REVISION RECORD	DATE	BY	ENGR.	M.E.	NPCA NO.

SHEET INDEX	REV	C	C	C
	SHEET	1	2	3

FIRST ANGLE
PROJECTION



UNLESS OTHERWISE SPECIFIED ALL
DIMENSIONS SHOWN ARE IN MILLIMETERS,
WITH IMPERIAL CONVERSIONS IN [INCHES]

TITLE

INSTR FUEL WARMER
[SUPRA S/SUPRA HE]

DRAWING NO.

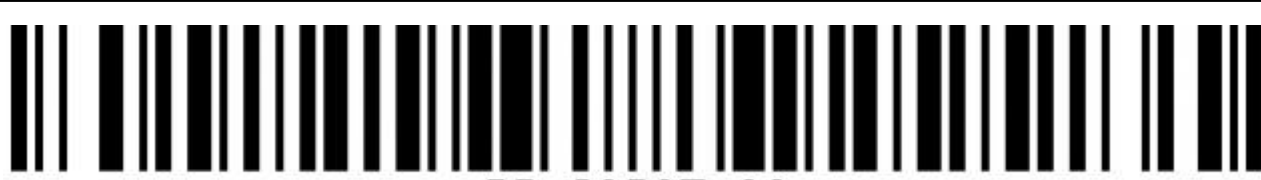
98-60803

SHEET 1 OF 3

REV

C

DRAWING CLASSIFICATION: US &US-ECCN



98-60803-00



Carrier Transicold Industries
810, route de Paris
Boite Postale 16
76520 Franqueville Saint Pierre
France
R.C. Rouen 8 410 041 677

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DESCRIPTION	PART NO.
FUEL HEATER KIT FOR SUPRA S/SUPRA HE W/O FH OPTION CONNECTOR	76-61592-00
FUEL HEATER KIT FOR SUPRA S WITH FH OPTION CONNECTOR	76-61592-01
FUEL HEATER KIT FOR SUPRA S WITH FH OPTION CONNECTOR	76-61592-04

AVANT TOUTE INTERVENTION, APPLIQUER LA PROCEDURE DE CONSIGNATION.
[BEFORE OPERATION, APPLY THE LOCK OUT/TAG OUT PROCEDURE.]

INSTALLATION DU FAISCEAU

- ETAPE 11: LOCALISER LE CONNECTEUR 4 VOIES "FHR" SUR LE FAISCEAU DE LA MACHINE (ENSEMBLE CONNECTEURS SOUS LES FILTRES)
ETAPE 12: COUPER LES COLLIERES.
ETAPE 13: PRENDRE LE FAISCEAU DU KIT (ITEM 20) ET FIXER LE RELAIS AVEC L'ECROU M6 SUR LE COFFRET (ITEM 80) COUPLE DE SERRAGE: 5 Nm.
ETAPE 14: CONNECTER LA FONCTION FHR VIA LE CONNECTEUR 4 VOIES AVEC CELUI DE L'ETAPE 11, L'ATTACHER AVEC LES AUTRES FAISCEAUX.
ETAPE 15: FAIRE CHEMINER ET FIXER LE FAISCEAU SUR LE FAISCEAU DE LA MACHINE, SECURISER LA FIXATION ET LE PASSAGE DE CELUI-CI EN UTILISANT DES COLLIERES (ITEM 60)
ETAPE 16: FIXER LA BRANCHE THERMOSTAT AVEC LES CLIPS LIVRES SUR LE FAISCEAU (OU LE CLIP BORD DE TOLE). CONNECTER LE THERMOSTAT.
ETAPE 17: CONNECTER L'ELEMENT CHAUFFANT
CAS -00 : CONNECTER LES COSSES DU FAISCEAU SUR LES LANGUETTES DU RECHAUFFEUR. COSSE DRAPEAU SUR LA VERSION -00 RECHAUFFEUR
CAS -01 : MANCHONNER CHAQUE FILS SUIVANT LES REGLES CARRIER (VOIR DETAILS SUR TABLEAU A)
OUTILS / 07-60140-00
ETAPE 18: SEPARER LA LIGNE GASOIL ET LA BRANCHE DE L'ELEMENT CHAUFFANT AVEC LE DOUBLE COLLIER FOURNI SUR LE FAISCEAU.

PROGRAMMATION DU MICROPROCESSEUR

LA CONFIGURATION "FUEL HEATER INSTALLED" DOIT ETRE ACTIVEE (VALUE = INSTALLED). CETTE CONFIGURATION EST DISPONIBLE SOUS "PARAMETRES MOTEUR". SANS MODIFICATION DE CETTE CONFIGURATION, LE RECHAUFFEUR DE GASOIL NE FONCTIONNERA JAMAIS.

TEST FONCTIONNEMENT:

PLACER UNE PINCE AMPERMETRIQUE SUR L'ALIMENTATION DU RECHAUFFEUR. REFROIDIR LE THERMOSTAT (BOMBE GIVRANT) MESURE COURANT THEORIQUE: 9 AMP (CONTACT DU THERMOSTAT FERME). MESURER LA TEMPERATURE DE SURFACE EXTERNE DU RECHAUFFEUR POUR CONTROLER SON FONCTIONNEMENT. ATTENDRE QUE LE THERMOSTAT FHT SE RECHAUFFE, L'INTENSITE DOIT PASSER A 0 AMP (OUVERTURE DU CONTACT).

HARNESS INSTALLATION

- STEP 11: LOCATE "FHR" 4 WAYS CONNECTOR ON THE UNIT HARNESS (CONNECTORS LOCATED BELOW ENGINE FILTERS)
STEP 12: CUT THE FIXING COLLARS.
STEP 13: TAKE THE KIT HARNESS (ITEM 20) AND FIX THE RELAY WITH NUT (ITEM 80) TIGHTENING TORQUE: 3.7 lbf-ft
STEP 14: CONNECT "FHR" CONNECTOR 4 WAYS WITH THIS OF STEP 11, FIX IT WITH THE OTHER CONNECTORS.
STEP 15: ROUTE AND FIX THE HARNESS ON THE UNIT HARNESS, SECURE THE FIXING AND THE ROUTING BY USING TYRAPS CLAMPS (ITEM 60)
STEP 16: FIX THE THERMOSTAT BRANCH OUGHT TO FIR TREE CLIPS DELIVERED ON HARNESS (OR EDGE CLIP). CONNECT THE THERMOSTAT.
STEP 17: CONNECT THE HEATING ELEMENT
CASE -00 : CONNECT FLAG TERMINALS OF THE HARNESS ON HEATER. FLAG TERMINAL FOR HEATER -00 ONLY
CASE -01 : USE BUTT SPLICES TO CONNECT FOLLOWING CARRIER RULES (SEE TABLE A FOR WIRING CORRESPONDANCE) TOOL : 07-60140-00.
STEP 18: SEPARATE FUEL LINE AND FUEL HEATER HARNESS BRANCH OUGHT TO CLAMP ATTACHED ON HARNESS

MICROPROCESSOR SETTING

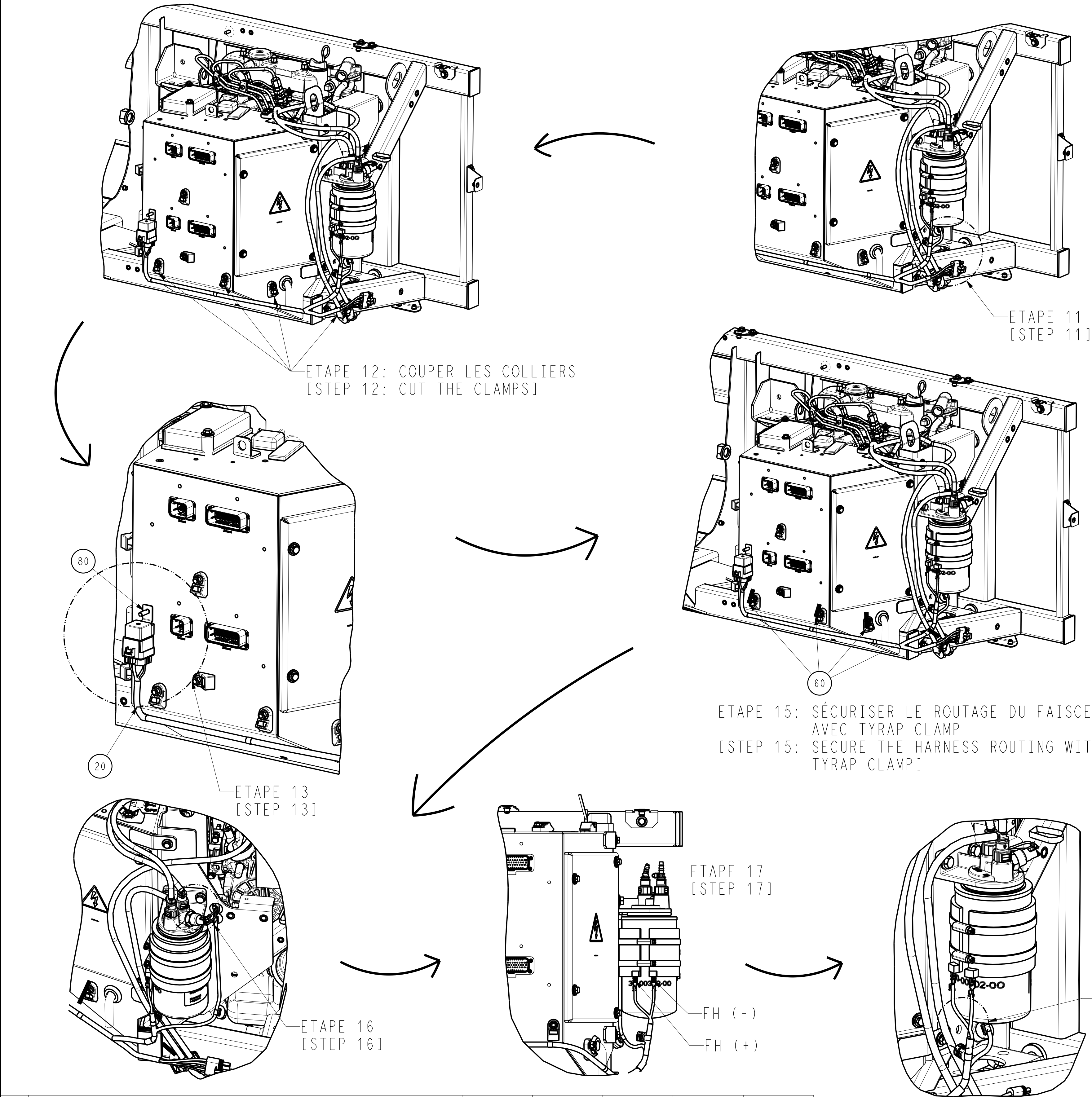
THE CONFIGURATION "FUEL HEATER INSTALLED" HAS TO BE ACTIVATED (VALUE = INSTALLED). THIS CONFIGURATION IS AVAILABLE UNDER "ENGINE SETTINGS". WITHOUT CHANGING THIS CONFIGURATION, THE FUEL HEATER WILL NEVER OPERATE.

OPERATION TEST:

USE A CURRENT CLAMP ON POSITIVE WIRE FROM FUEL HEATER. FREEZE THERMOSTAT (FREEZE BOMB) THEORETICAL CURRENT: 9 AMPS (THERMOSTAT CONTACT CLOSED). MEASURE FUEL HEATER EXTERNAL SURFACE TEMPERATURE TO CHECK THE RIGHT OPERATION. WAIT FOR THE FHT THERMOSTAT TO WARM UP, THE CURRENT MUST CHANGE TO 0 AMP (CONTACT OPEN).

TABLE A FOR WIRE CORRESPONDANCE

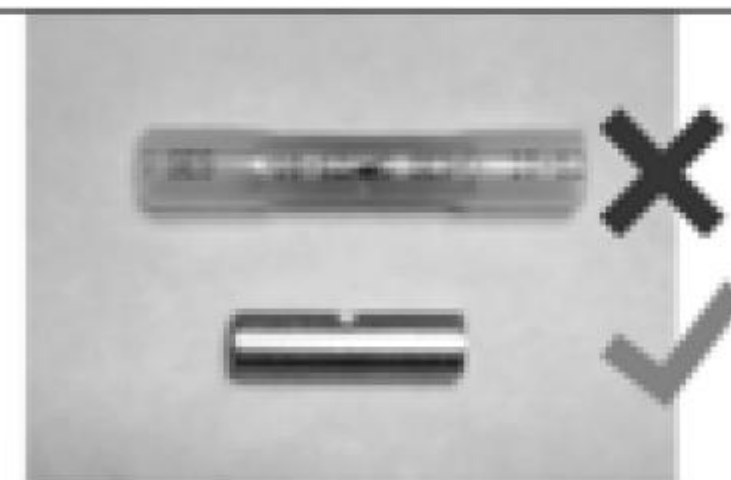
MAIN HARNESS		FUEL HEATER HARNESS		HEAT SHRINK
FHR		FH OPTION		
ADDRESS	COLOR	ADDRESS	COLOR	
SP7/FHR-85	GREEN	FH- / GRD	GREEN	Ø9 WIRE 3 MM2
TPC-30 / FHR-86	WHITE	TPC-30 / FHR-2	WHITE	Ø6 WIRE 1.5 MM2
SP12 / FHR-87	WHITE	SP12 / FHR-1	WHITE	Ø9 WIRE 3 MM2
FHT / SP7	GREEN	FHTH-B / GRD	GREEN	Ø6 WIRE 1.5 MM2



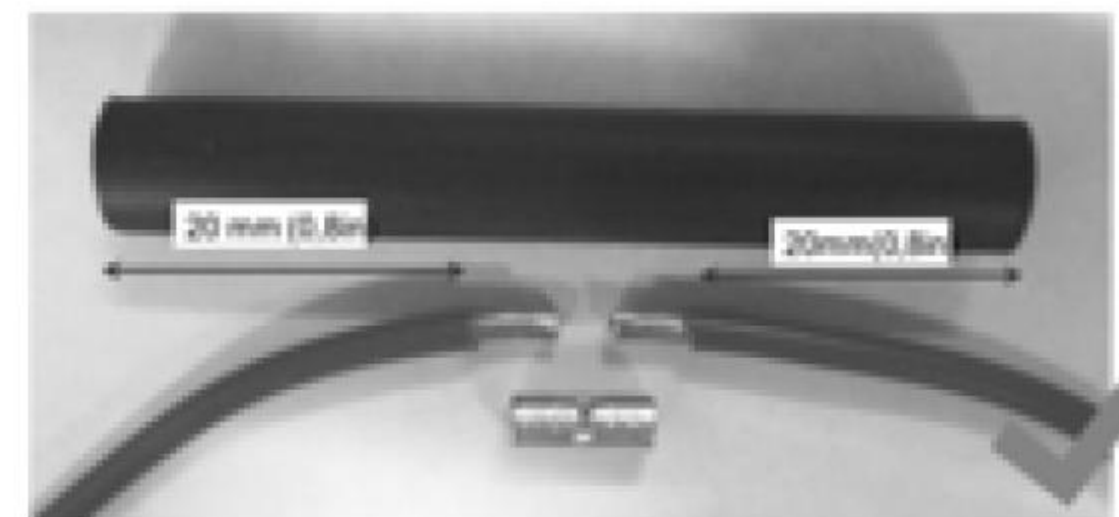
C	ADDED -01 RECHAUFFEUR GAZOIL AND ADDED SHEET 3 AND UPDATE NOTE ETAPE 8,11,14 & 17. UPDATED VIEWS WITH FH OPTION CONNECTOR, ADDED -04 ROW IN CHART FOR FUEL HEATER KIT.	08 NOV 23	LANUZEL / LT-AR		1172131	FIRST ANGLE PROJECTION	UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS SHOWN ARE IN MILLIMETERS, WITH IMPERIAL CONVERSIONS IN [INCHES]	TITLE	INSTR FUEL WARMER [SUPRA S/SUPRA HE]	DRAWING NO.	98-60803	REV	C
SYM	REVISION RECORD	DATE	BY	ENGR.	M.E.	NPCA NO.					SHEET 2 OF 3		

DRAWING CLASSIFICATION: US &US_ECCN

USE CRIMPING TOOL FOR TERMINAL P/N 07-60140-00



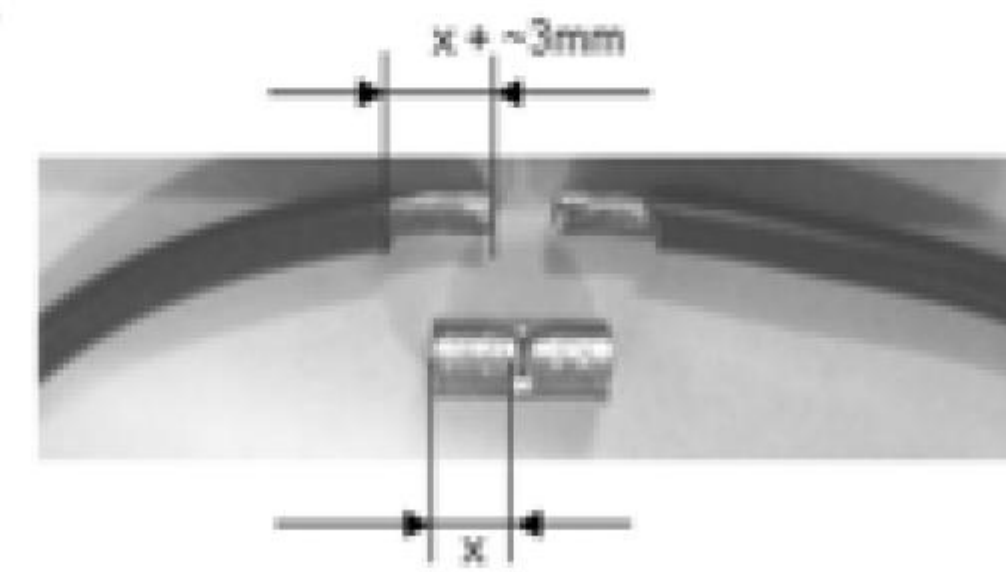
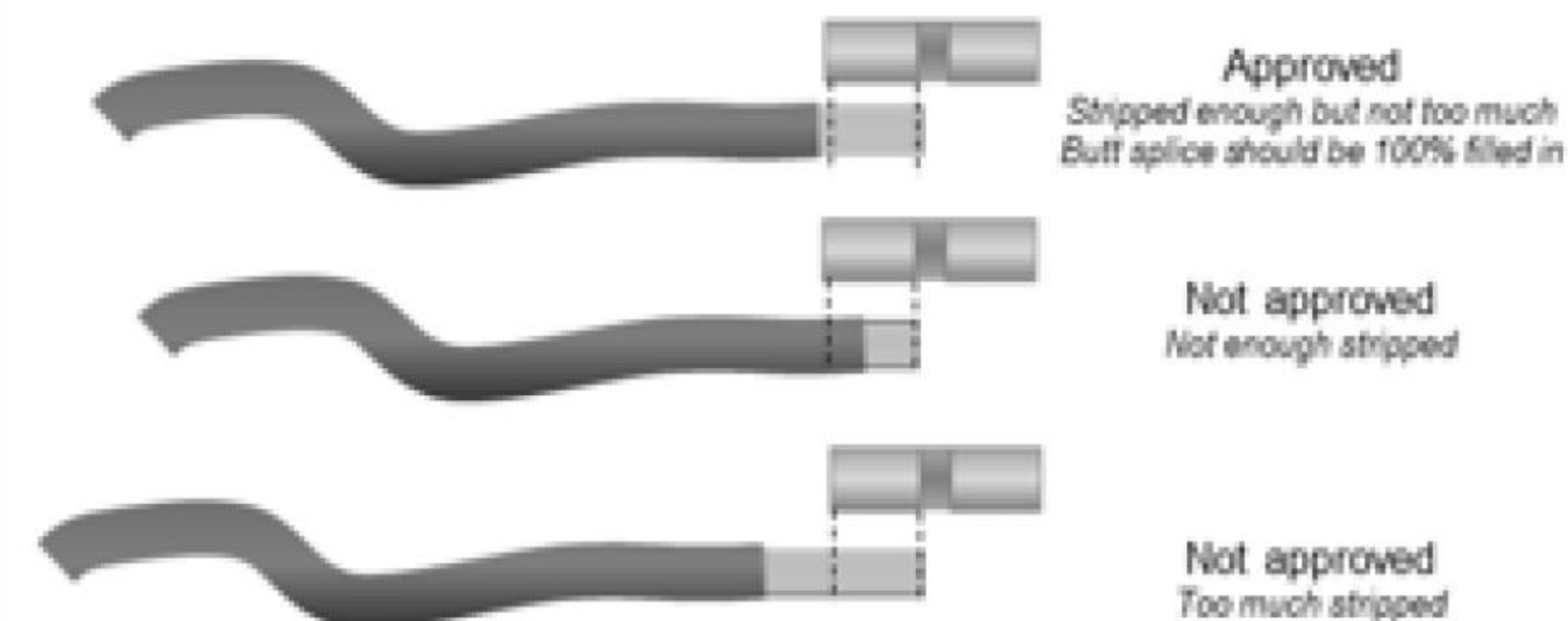
Pre-insulated butt splices are forbidden.
Non-insulated butt splices must be covered
with heat shrinks



Splicing to be used

Approved splicing to be used:

Wire gauge	Uninsulated Metal S/N	Glue Lined Heat Shrinks P/N
16-22 AWG (1,5mm ² - 0,25mm ²)	22-01292-00 (20pcs)	66-U---1---3803 (20pcs) precut 50mm (2inches) length
10-12 AWG (6mm ² - 4mm ²)	22-01292-01 (20pcs)	
14-16 AWG (1,5mm ² - 2,5mm ²)	22-01292-02 (20pcs)	

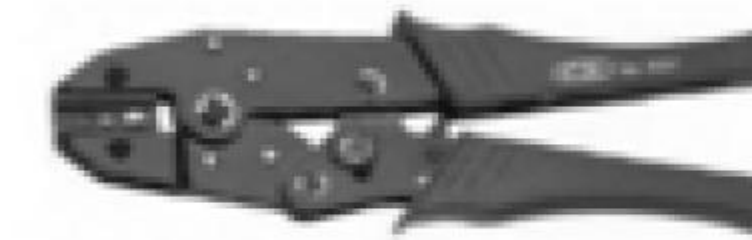


Recommended length to strip

CRIMPING recommendation

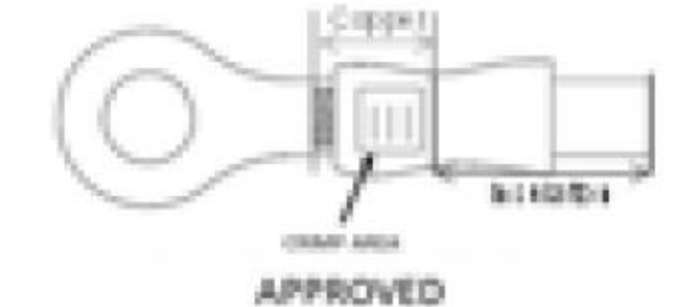
CRIMPING RING TERMINAL

USE CRIMPING TOOL FOR TERMINAL
P/N 07-60123-00



- ADD A HEAT SHRINK AROUND THE WIRE. 30MM.
- CRIMP THE TERMINAL WITH THE APPROPRIATE TOOL
- CRIMPING SHOULD BE DONE ON THE COPPER AREA ONLY, AS PER BELOW DRAWING;
- CLOSE THE HEAT SHRINK AROUND THE WIRE TERMINAL RING BY USING A HEAT GUN.
- THE HEAT SHRINK MUST NOT COVER THE RING PART OF THE TERMINAL TO HAVE A GOOD CONTACT AREA.

Example:



CRIMPING END TERMINAL

USE CRIMPING TOOL FOR END TERMINAL (Purchase locally)
REFERENCE WURTH P/N 0714 107 162



REMOVE WIRE INSULATION ON THE SAME LENGTH OF THE END TERMINAL

Example:

