



Műszaki Igazgatóság
Műszaki Üzemeltetési Főosztály
Vasúti Jármű Főmérnökség
Vasúti Járműműszaki Osztály

MŰSZAKI LEÍRÁS

a

M50416 típusú kétkarú, rögzített lapátszögű ablaktörlő rendszer
T5C5, T5C5K és T5C5K2 típusú villamosokba történő beépítéshez

Száma:

T5C5K – M – 4 - 58

Készítette:

Járműműszaki Osztály

Technológiai és Műszaki Csoport

2011-12-12.

Jóváhagyta:

A handwritten signature in black ink, appearing to be "PK" or similar initials.

Piros Kálmán

osztályvezető

Jelen leírás 7 számozott oldalt tartalmaz.

MŰSZAKI LEÍRÁS

Általános ismertetés:

A T5C5K típusú villamosok üzemeltetése során szerzett tapasztalatok alapján a járműtípus ablaktörlő rendszerével kapcsolatos alábbi módosításokat végezzük el. A módosításokat a T5C5, T5C5K és T5C5K2 típusú járműveken folyamatosan vezetjük be, s kötelezően elvégzendő munkaként jelenik meg a „J1-es” javítás feladatai között.

1. Kétkarú, rögzített lapátszöggel rendelkező ablaktörlő rendszer alkalmazása fokozatmentesen változtatható ütemadóval

A járművezető vezetési feltételeinek javítása érdekében a jelenleg alkalmazott kétkarú pantográf ablaktörlő kar helyett kétkarú rögzített lapátszögű ablaktörlő kar kerül felszerelésre a járműveken. Jelenleg a szélvédő alatt elhelyezett ablakmosó fűvókák helyett az ablaktörlő lapátra épített fűvókák végzi az ablakmosó folyadék szélvédőre juttatását, így növelve a szélvédő mosás hatékonyságát.

A megoldás lehetővé teszi az eddig használt 500, illetve 550 mm-es ablaktörlő lapát helyett 800 mm-es hosszúságú lapát alkalmazását, ami nagyobb törlési felületet biztosít. A gyártó által készített és mellékelte rajzok alapján látható, hogy a törlési szélesség megmaradása mellett a lapát hosszúságának növelésével arányosan (kb. 40%) nő a törölt felület nagysága. A kialakítás további előnye a meglévővel szemben, hogy a törlés végeztével, valamint kikapcsolt állapotban a lapátok a szélvédő oszlopa mellett parkolnak így a fő látómező szabadon marad.

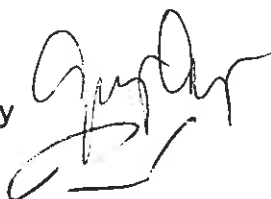
A módosítás másik eleme az ITR-2C típusú ablaktörlő ütemadó beépítése, melynek segítségével a járművezető igénytől függően szabályozhatja a lapátok működésének ütemét a kikapcsolt állapottól a folyamatos törlésig. Az ütemadó kezelési utasítását a 2 sz. melléklet tartalmazza.

2. A műszaki változások felsorolása:

- Rögzített lapátszöggel rendelkező karok beépítése,
- Új tengely furatok készítése a homlok lemezen.
- A mosófolyadék tengelyen keresztül történő kivezetése,
- A lapátokra szerelt egyenként 2×3 db fúvóka beépítése,
- Új motor tartó alaplappal felszerelése új mozgató motorral,
- Új, kétszivattyús, 10 literes mosófolyadék tartály beépítése a vezetői kontroller alá,
- ITR-2C típusú ütemadó beépítése,
- Ütemszabályzó potméter beépítése a vezetői pultba.

Készítette: Gerényi György

Ellenőrizte: Pálosi Tibor



Melléletek:

1. M700836 számú rajz a törlési képről.
2. M710185 számú rajz az ablaktörlő rendszer beépítéséről.
3. M700636 számú rajz a 10 literes tartályról.
4. M951641 számú rajz a mozgató motorról és annak bekötéséről.
5. Kezelési utasítás a korszerűsített ablaktörlő rendszerhez.

5 sz. melléklet

Kezelési utasítás a korszerűsített ablaktörő rendszerhez

Az ablaktörő ütemadóval felszerelt T5C5K típusú villamoson az ablaktörő kezelő szervei kiegészülnek egy ütemadó szabályzó forgató gombbal. Az ablaktörő kapcsoló, az ablakmosó nyomógomb, illetve az ütem szabályzó forgató gomb az alábbiak szerint működik.

Ablaktörő kapcsoló: A kapcsolót bekapcsolva az ablaktörő motor bekapcsol, és a lapát törölni kezdi a szélvédőt. A szélvédő törlésének üteme a szabályzó forgató gomb állásától függ. A kapcsolót kikapcsolva a lapát a szélső helyzetben áll meg.

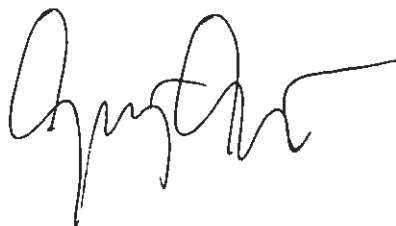
Ablakmosó nyomógomb: Az ablakmosó nyomógomb megnyomásával a mosó szivattyú mosó folyadékot juttat a lapáton lévő szórófej segítségével a szélvédőre. A lapát ezzel egy időben folyamatosan törölni kezdi a szélvédőt. A nyomógomb elengedésekor a folyadék áramlás megszűnik, de a lapát még automatikusan töröl 3-4 alkalommal. A lapát a véghelyzetben áll meg.

Amennyiben az ablakmosó nyomógombot az ablaktörő kapcsoló bekapcsolt állapotában nyomjuk meg és az ütemszabályzó forgató gomb ütemes törlésen áll, akkor is a nyomógomb megnyomása alatt illetve utána 3-4 törlés erejéig folyamatosan fog törölni a lapát, majd visszaáll az ütem szerinti törlésre.

Ütem szabályzó forgató gomb: Az ablaktörő kapcsoló bekapcsolásakor az ablaktörő lapát ütemesen töröl. A forgató gombot baloldalra tekerve a lapát törlési üteme ritkul, azaz nagyobbak lesznek a törlési szünetek. A forgató gombot jobb irányba tekerve a törlési ütem sűrűsödik. A forgató gombot teljesen jobb oldalára tekerve az ablaktörés folyamatossá válik.

Budapest, 2010-02-01.

Készítette: Gerényi György





Hiv.szám: T5C5K-M-4-58

NYILATKOZAT

A fenti hivatkozási számra nyilatkozunk arról, hogy a J&J PSV Magyarország Kft. (cégjegyzék szám: 13-09-121272) hivatalos magyarországi képviselője az angliai székhelyű Matador Ltd. (cégjegyzék szám: 1794948) ablaktörlő gyártónak és kizárólagos joggal rendelkezik műszaki dokumentáció kiadására a gyártó képviselőjében.

Jelen dokumentum igazolja, hogy az is, hogy az itt felsorolt műszaki referenciák a Matador Ltd. intellektuális tulajdona és kizárólagosan a BKV Zrt. és annak leányvállalata a BKV Vasúti Járműjavító és Szolgáltató Kft. részére, specifikusan a Tátra típusú villamos ablaktörlő rendszerének átalakításához készült.

Referencia dokumentációk:

- M700836
- M710185 (2 oldal)
- M700636
- M951641

A felsorolt műszaki rajzok aláírás nélkül is érvényesek. A kézzel írt magyar nyelvű fordítás hiteles.

Dátum: Kistarcsa, 2012 január 19.


Juhász Csaba
ügyvezető

J&J (PSV) Magyarország Kft.
H-2143 Kistarcsa, Rozmaring utca 9.
T/F: +36 28 473422 E: info@jandjpsv.eu
Célibank: 10800014-20000008-12522936
Adószám: 14378892-2-13 Cégjazi: 13-09-121272

Matador Magyarországi Képviselő



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J&J (PSV) Magyarország Kft.
2143 Kistarcsa, Rozmaring u. 9. (Hungary)
T : +36 28 473422 F: +36 28 473422
Email: info@jandjpsv.eu
www.jandjpsv.eu

Adószám:
14378892-2-13
Cégjegyzékszám:
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EU Tax Id. HU14378892

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Számlaszám: HU 46
10800014-10000006-12522928
Swift kód: CITIHUHX

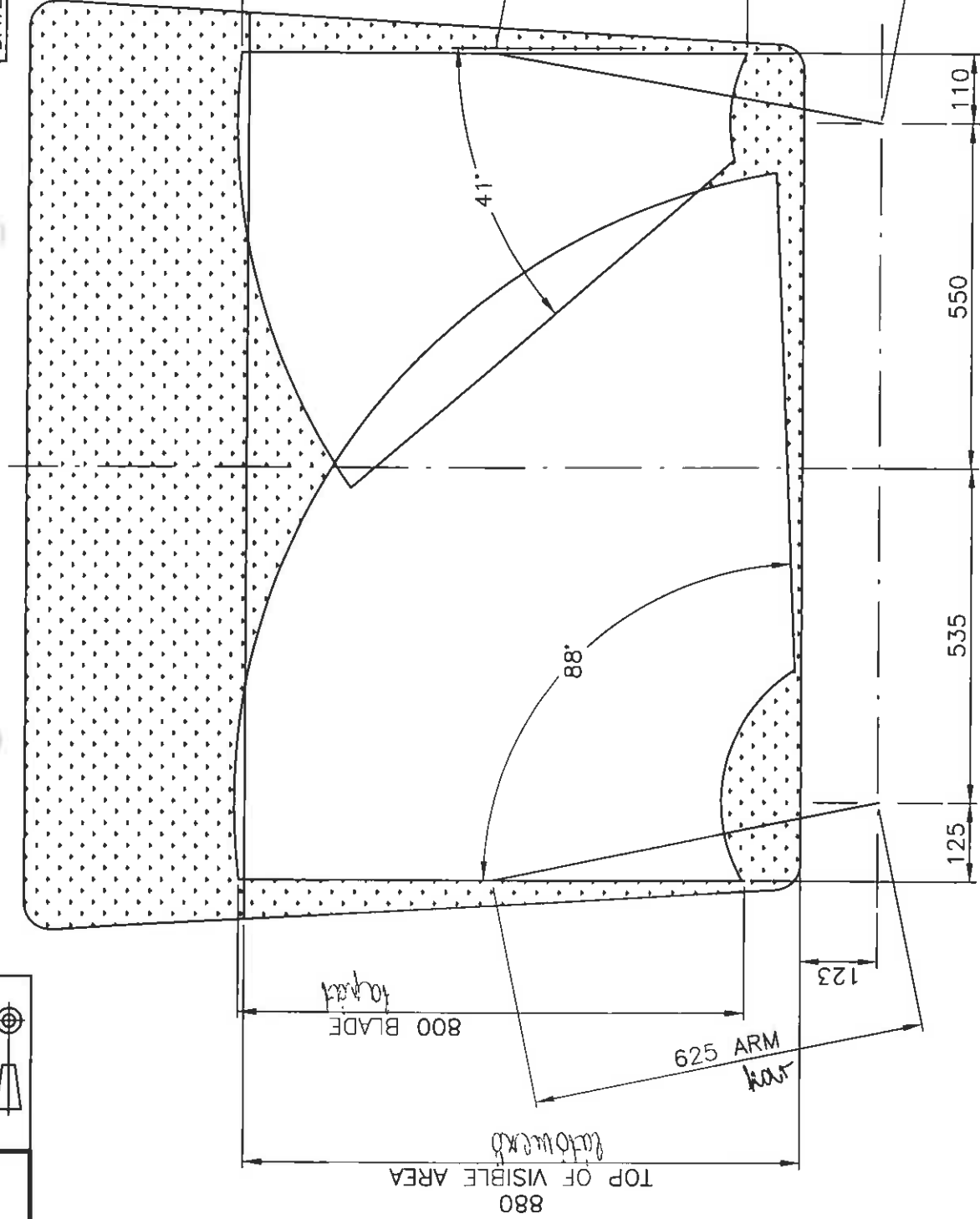
Drawing No:
M700836



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Drawn by: SIV
Checked by: CST
Approved by: [Signature]
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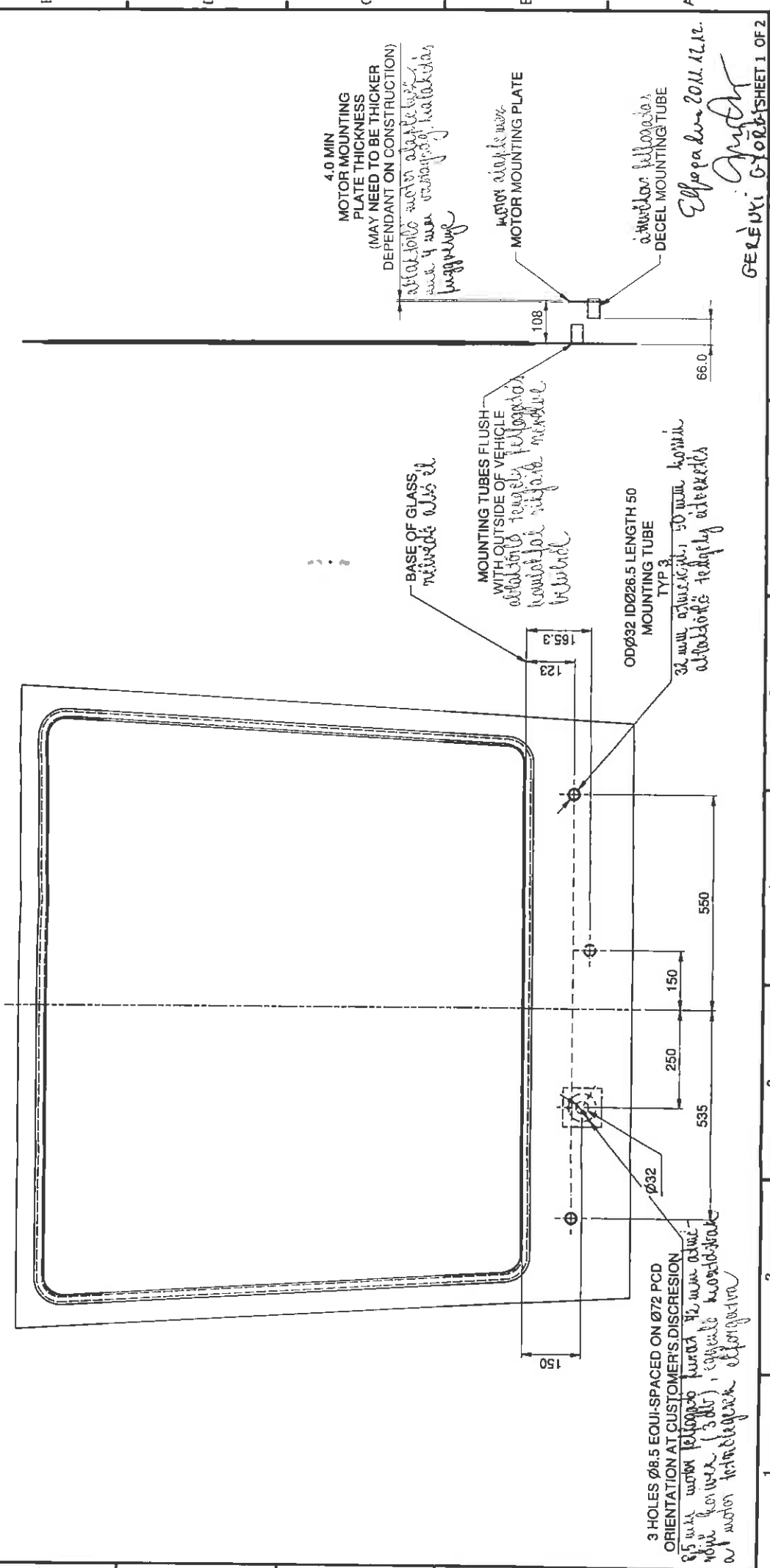
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X ±0.5
XX ±0.25
XXX ±0.10
Material: 3,2 um
Finish: Chemfere ±5°
C'k's: +2 -0

THE MATADOR COMPANY LTD
UNIT 6, WALKER BUCKINGHAM INDUSTRIAL PARK, BUCKINGHAM, MK18 1TH.
Drawing No: **M700836**
Rev: **A**

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| Revision No: | A |
| E.R.N. No: | 2393 |
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| Checked: | CST |
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| TKV/V. WANDM ALPHAKTINIA PUA INTMADA-4 | |

| REV | ERN | DATE | DRAWN | CHKD |
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| A | 2393 | 03.06.11 | SW | CS1 |
| B | 2393 | 25.07.11 | SW | CS1 |
| C | 2393 | 26.07.11 | SW | CS1 |

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4.0 MIN
MOTOR MOUNTING
PLATE THICKNESS
(MAY NEED TO BE THICKER
DEPENDANT ON CONSTRUCTION)
MOTOR MOUNTING PLATE
MOTOR MOUNTING TUBE
DECEL MOUNTING TUBE
Effepepepe 2011.12.12.
GELERVI GYORISHEET 1 OF 2

| Drawn By | Date | Tolerance Unless Otherwise Stated | Material |
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| SW | 03/06/2011 | X ±0.5 | Aluminum |
| CS1 | 02/06/2011 | X ±0.25 | Aluminum |
| Approved By | Date | CSK's | Chamfers |
| | | ±0.1 | ±0.5 |

Scale 1:10
A3 WIPER SYSTEM INTERFACE DETAILS

THE MATADOR COMPANY LTD
UNIT 1, 100, AVE,
BLOOMSBURY ROAD, LONDON, WC1E 6JF, UK
Drawing No
M710185

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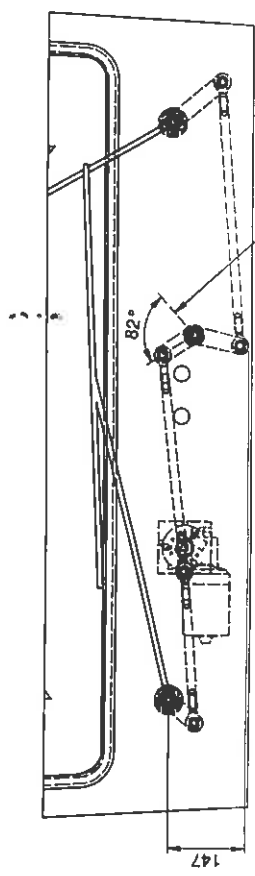
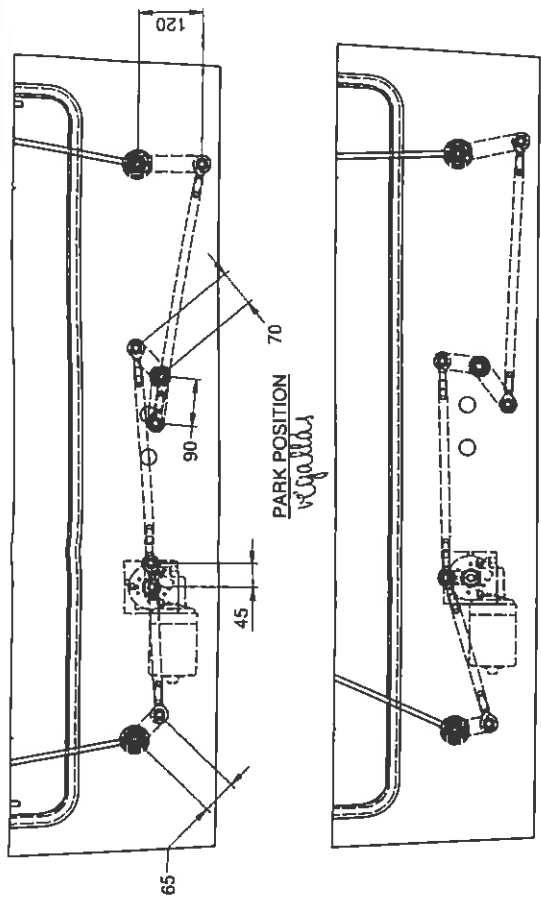
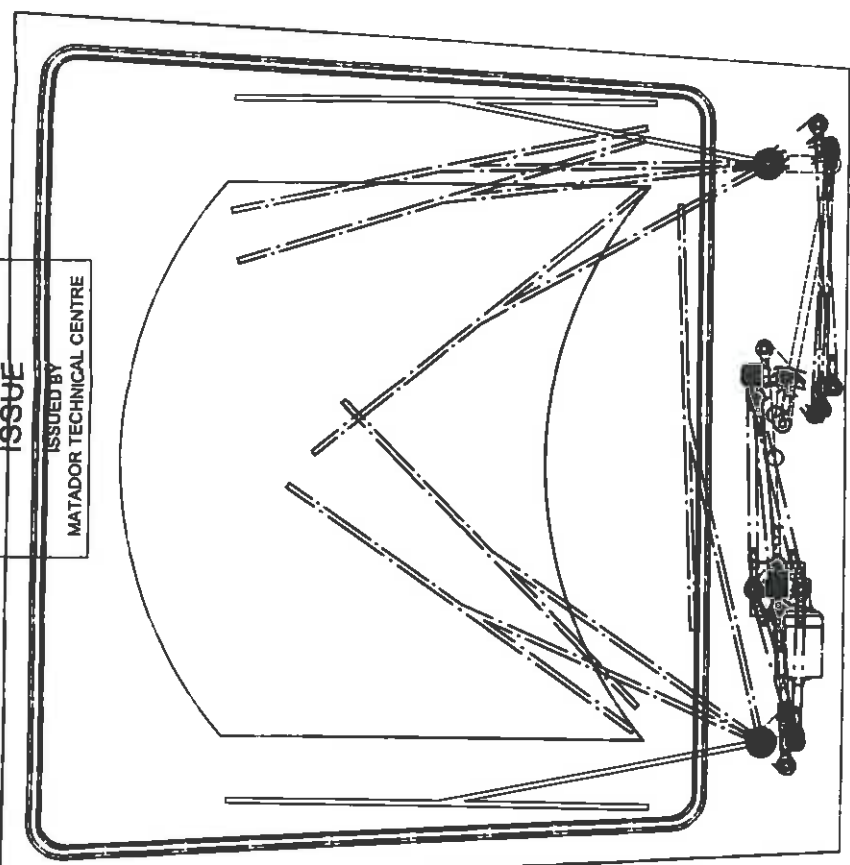
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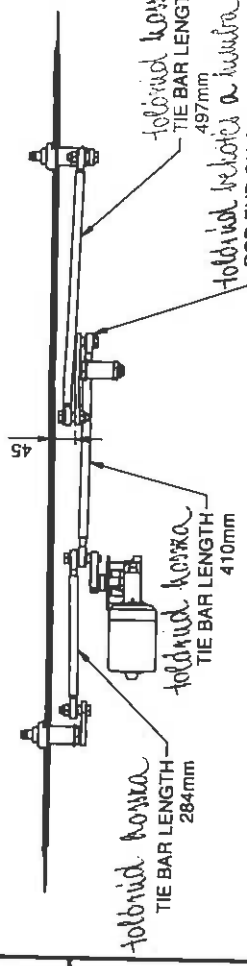
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| B | 2090 | 28.07.11 | SJV | CST |
| C | 2090 | 28.07.11 | SJV | CST |



END OF STROKE POSITION
abac tönlek tönkünü

PARK POSITION
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BUCURESTI, 11117

Drawing No
M710185

WIPER SYSTEM INTERFACE DETAILS

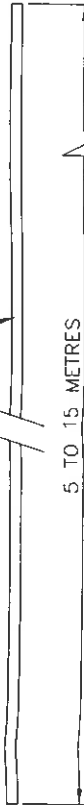
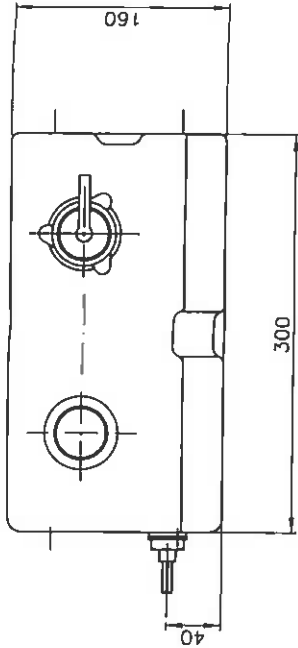
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M700636

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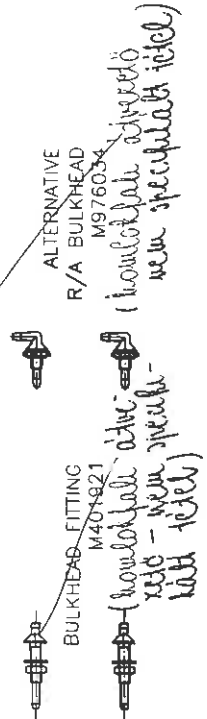
Do Not Scale

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DATE PRINTED



CLEAR TUBING
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R/A BULKHEAD
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ALTERNATIVE
R/A BULKHEAD
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(koulakali atve
xelo - xelo speck-
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FOR FITTING OF
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bejstet vögiedb neu
(4dt utereda neu)

FILLER NECK
xutereda ca koutakpa

ALTERNATIVE
FILLER NECK POSITION
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FLOAT LEVEL SENSOR
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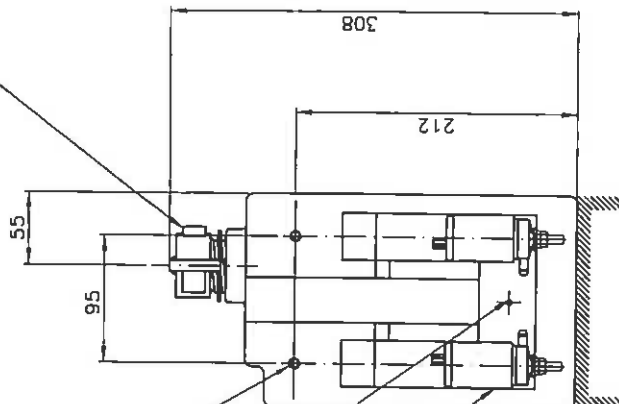
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ALTERNATIVE
WASHER PUMPS
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xutereda vögiedb neu

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Előzetesen 2011.12.17.
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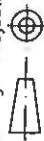
THE MATADOR COMPANY LTD
UNIT 6, TOP ANGEL
BUCKINGHAM, MK18 1TA
Drawing No
M700636
Rev
A

| General Notes: | | Tolerance Unless Otherwise Stated | | Material | |
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Drawing No:

M951641 OL

Third Angle Projection



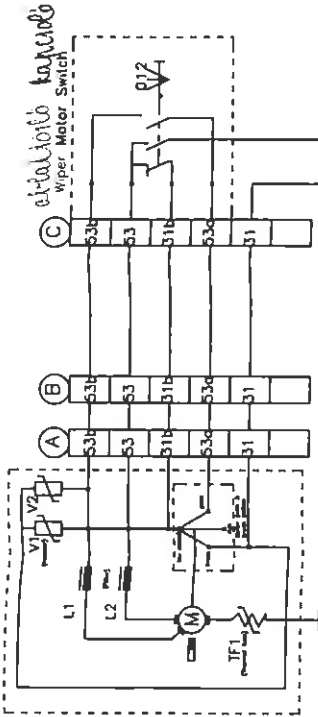
Do Not Scale

If in Doubt Ask

DATE PRINTED

24V
 26/32W
 2.5/4.2A
 22/25A
 23/38MIN⁻¹
 12.0/8.5Nm
 80Nm
 IP53
 2.7kg (approx)

24V
 26/32W
 2.5/4.2A
 22/25A
 23/38MIN⁻¹
 12.0/8.5Nm
 80Nm
 IP53
 2.7kg (approx)



Wiper Motor Switch

| Switch Position | ON/OFF | OFF/ON |
|-----------------|--------|--------|
| 0 | ON/OFF | OFF/ON |
| 1 | OFF/ON | ON/OFF |
| 2 | OFF/ON | ON/OFF |

MOTOR WIRING DIAGRAM

Power Supply

CONTROLLED DOCUMENT
 REFERENCE ISSUE
 ISSUED BY
 MATADOR TECHNICAL CENTRE

C

MOTOR WIRING DIAGRAM

Power Supply

31b
 31c
 33b
 33c

BLACK (over the handle)
 YELLOW (PARKING)
 GREEN (STOP)
 RED (FAST)
 BLUE (+24V)
 RED (VIEW ON ARROW A)
 BLACK (VIEW ON ARROW B)

B

MOTOR WIRING DIAGRAM

Power Supply

31b
 31c
 33b
 33c

BLACK (over the handle)
 YELLOW (PARKING)
 GREEN (STOP)
 RED (FAST)
 BLUE (+24V)
 RED (VIEW ON ARROW A)
 BLACK (VIEW ON ARROW B)

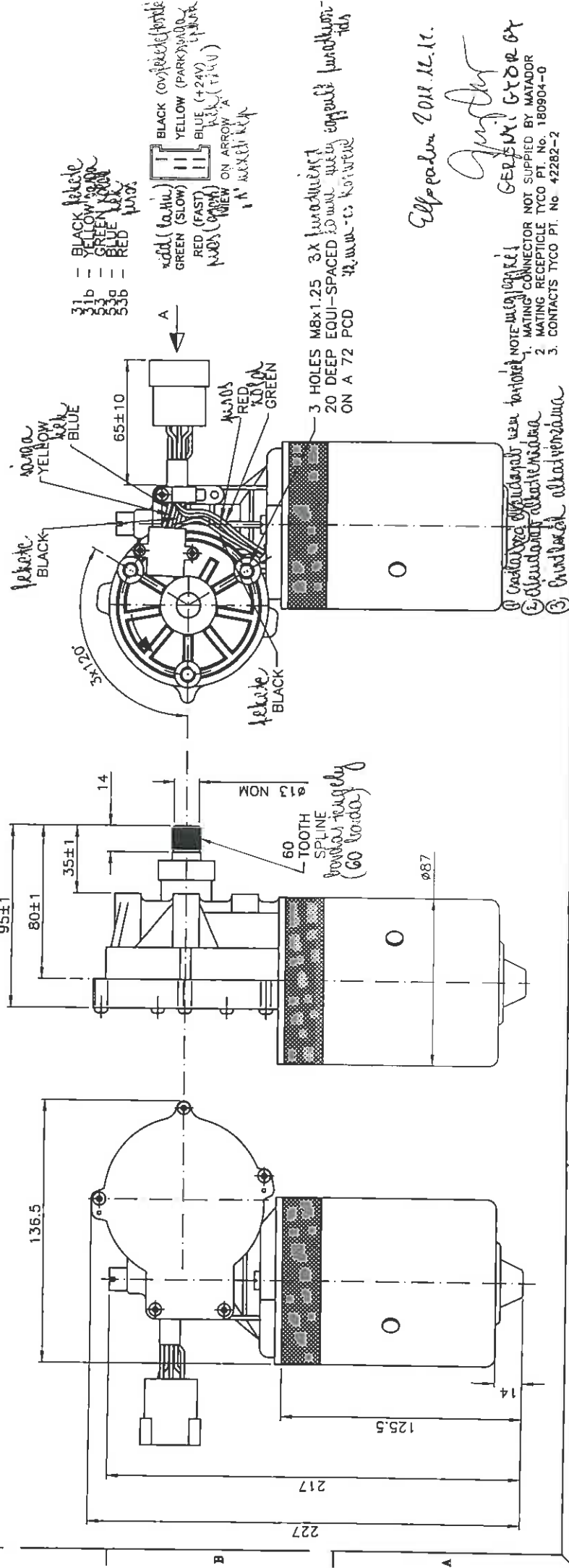
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MOTOR WIRING DIAGRAM

Power Supply

31b
 31c
 33b
 33c

BLACK (over the handle)
 YELLOW (PARKING)
 GREEN (STOP)
 RED (FAST)
 BLUE (+24V)
 RED (VIEW ON ARROW A)
 BLACK (VIEW ON ARROW B)



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| General Notes 1 All dimensions are given in millimetres; and after plating unless otherwise stated 2 remove oil burrs and sharp edges, 0.5 max radius or chamfer x 45° permissible unless otherwise stated | | THIS DOCUMENT CONTAINS PROPRIETARY TRADE SECRET INFORMATION WHICH IS THE PROPERTY OF THE MATADOR COMPANY AND ACCESS TO THIS DOCUMENT IS RESTRICTED TO THE EXTENT AUTHORIZED BY THE MATADOR COMPANY AND THE RECIPIENT. ACCESS TO THIS DOCUMENT ASSUMES CUSTODY AND CONTROL UNDER A CONFIDENTIALITY AGREEMENT. PROPRIETARY AND DATA CONTAINED HEREIN, AS WELL AS THE PROPRIETARY AND NOVEL FEATURES OF THE SUBJECT MATTER ARE RESERVED BY THE MATADOR COMPANY AND SHALL NOT BE MANUFACTURED, USED, SOLD OR DISCLOSED TO OTHERS, NOR ARE THE ELEMENTS EMBOSSING SUCH FEATURES OR THESE DRAWINGS OR SKETCHES, SPECIFICATIONS, INTELLECTUAL AND DATA, EXPRESSLY AUTHORIZED IN WRITING BY THE MATADOR COMPANY AND SHALL NOT BE COPIED OR REPRODUCED IN ANY MANNER WHATSOEVER WITHOUT WRITTEN PERMISSION AND SHALL BE RETURNED UPON REQUEST. | | Drawn by AM Checked by CST Approved by Scale 1:2 Date 20-04-10 Date 06-10-10 Date Dwg. Size A3 | | Tolerances Unless Otherwise Stated X X.X X.XX ±0.5 ±0.25 ±0.10 Angular C's k's ±1' +2' -0' Chamfers ±5' Finish | | Material X.XX X.XX X.XX 3.2 um ±0.10 | |
| Revision No: A E.R.N. No: 2264 Drawn: AM Checked: CST | | Title: 24V 80Nm MOTOR | | Drawing No: M951641 OL | | Rev A | | | |

THE MATADOR COMPANY LTD
 UNIT 6, TOP ANCEL
 BUCKINGHAM INDUSTRIAL PARK,
 BUCKINGHAM, MK18 1TH.

Ellipsoiden 2011.11.11.
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