NOTES:

1) ALL DIMENSIONS ARE IN mm, UNLESS OTHERWISE SPECIFIED.

2) STEEL HSS, STEEL ANGLES AND PLATES ARE ACCORDING TO CSA STANDARD G40.21–M 350W.

3) HARDWARE:
   –HEXAGONAL BOLTS AND NUTS ARE ACCORDING TO ASTM A394.
   –PLAIN WASHERS ARE ACCORDING TO ANSI STANDARD B18.22.1/B18.22M.
   –LOCKWASHERS ARE ACCORDING TO ANSI/ASME B18.21.1 HELICAL TYPE, REGULAR SERIES

4) WELDING IS ACCORDING TO CSA STANDARD W59 AND W48.

5) ALL PIECES AND MEMBERS MUST BE GALVANIZED ACCORDING TO ASTM STANDARD A123.

6) PIECES DESCRIBED IN NOTE 3 MUST BE GALVANIZED ACCORDING TO CSA STANDARD G164 UNLESS THE ZINC COATING HAVE A THICKNESS EQUAL OR BELOW 5mm, IN THAT CASE GALVANIZATION MUST BE 0.305 kg/m .

7) TOLERANCE: ±1.0 mm (U.O.S.)

8) ALL TAPPED HOLES MUST BE DRILLED (C)
   TOLERANCES: +0.00mm , –0.20mm
   TAPPED HOLES: 5/8"–11 UNC–2B WITH OVERSIZE OF 0.5

9) THE CROSS BEAM PLUG ASSEMBLY WITH THE CROSS ARM MUST BE DONE BY THE MANUFACTURER BEFORE THE DELIVERY.

10) CROSS ARM AND CROSS BRACES MUST BE ONE CONTINOUS LENGHT WITH NO WELDED SEAMS.

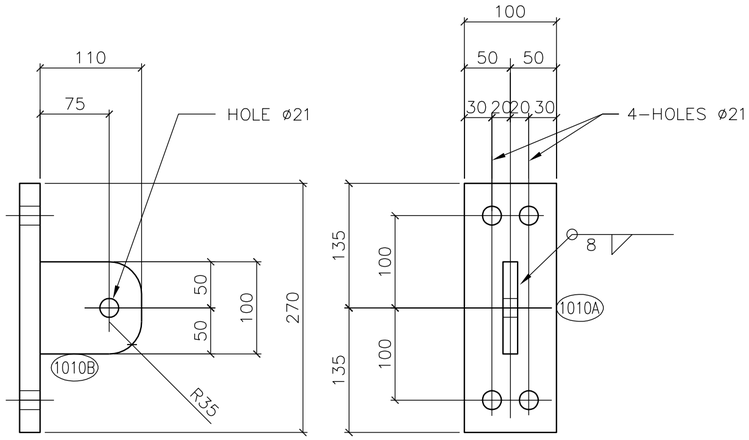
STEEL CROSS BRACES KIT – L 102x102x7.9 & L 102x102x9.5 – 11923 & 11924

FOR ASSEMBLY DETAIL SEE SHEET 1&2

MARK	QTY HAWK	QTY DRAKE	DESCRIPTION	LENGTH	UNIT WEIGHT (kg) +3.5% GALV.	TOTAL WEIGHT(kg) +3.5% GALV.
1009	2	–	CROSS BRACE – L 102x102x7.9	5684	71.77	143.54
1010	–	2	CROSS BRACE – L 102x102x9.5	5684	85.30	170.60
1010A	4	4	BRACKET – PL 100x22.2	270	4.87	19.48
1010B	4	4	BRACKET – PL 100x15.9	110	1.42	5.68
1010C	1	1	FILLER PLATE – PL 60x15.9	60	0.47	0.47
1010D	4	4	BOLT 3/4"x2 1/4" WITH NUT AND LOCKWASHER	–	0.27	1.08
1010E	1	1	BOLT 3/4"x3" WITH NUT AND LOCKWASHER	–	0.31	0.31
1010F	4	4	GROUNDING TAB – PL 9.5x44	51	0.17	0.68
1010G	4	4	HEXAGONAL BOLT 5/8" x 2" Lg. WITH NUT	–	0.14	0.56
1010H	4	4	LOCKWASHER FOR BOLT 5/8"	–	0.01	0.04
1010J	2	2	WASHER–ROUND–2" O.D.–13/16" HOLE, THICK. 5/32"	–	0.10	0.20

TOTAL WEIGHT FOR A HAWK/PENGUIN SET: 172.04 kg

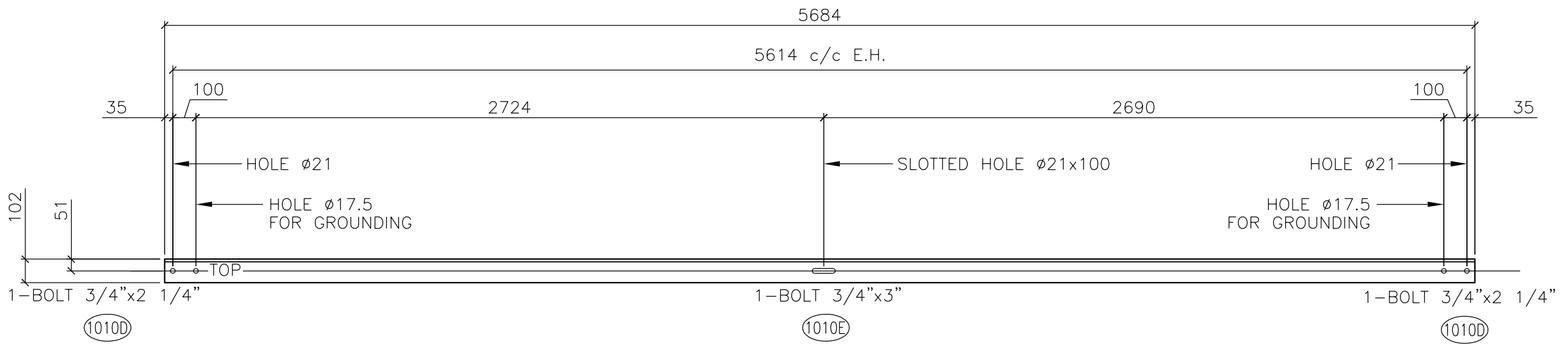
TOTAL WEIGHT FOR A DRAKE/GROSBEAK SET: 199.10 kg



CROSS BRACE SUPPORT PLATE (1010A) (1010B)
SCALE 1:5

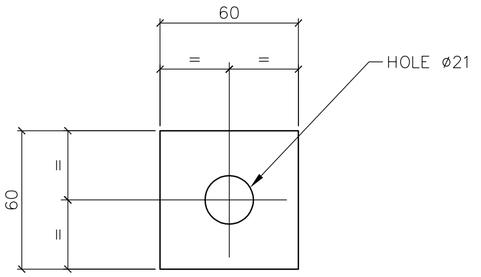
KIT DESCRIPTION:

STEEL CROSS BRACE: ASSEMBLE 2 CROSS BRACES (MARK 1009 OR 1010) WITH 3/4" x 3" BOLT WITH NUT AND LOCKWASHER (MARK 1010E), 2 2" ROUND WASHER (MARK 1010J) AND FILLER PLATE (MARK 1010C).
2 PACKAGED SUPPORT PLATE KITS, EACH SUPPORT PLATE KIT WILL CONTAIN THE FOLLOWING PARTS PACKAGED IN A 12"x12"x6" HIGH CARTON RATED FOR 50 LBS:
QTY 2 – CROSS BRACE SUPPORT PLATES – (MARK 1010A & MARK 1010B)
QTY 2 – BOLTS 3/4"x2–1/4" C/W NUT AND LOCKWASHER (MARK 1010D)
QTY 2 BAGS – GROUNDING TAB (MARK 1010F) C/W 5/8"x2" BOLT (MARK 1010G) AND 5/8" LOCKWASHER (MARK 1010H)

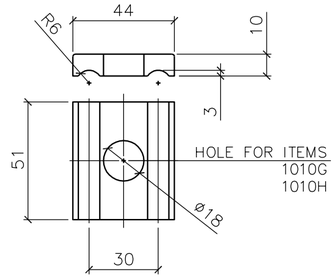


CROSS BRACE – HAWK/PENGUIN (1009)

CROSS BRACE – DRAKE/GROSBEAK (1010)



FILLER PLATE (1010C)
SCALE 1:2



GROUNDING TAB (1010F)
SCALE 1:2

AutoCAD

APPROVED FOR CONSTRUCTION

D	DESIGNED BY J. MÉNARD (CIMA+) DRAWN BY J. SAVOIE APPR'D BY K. OLECHNOWICZ SEALED BY K. OLECHNOWICZ DATE (Y–M–D) 2015–01–12	C	DESIGNED BY J. MÉNARD (CIMA+) DRAWN BY J. SAVOIE APPR'D BY K. OLECHNOWICZ SEALED BY K. OLECHNOWICZ DATE (Y–M–D) 2014–08–25	B	DESIGNED BY J. MÉNARD (CIMA+) DRAWN BY J. SAVOIE APPR'D BY K. OLECHNOWICZ SEALED BY K. OLECHNOWICZ DATE (Y–M–D) 2014–08–19	A	DESIGNED BY J. MÉNARD (CIMA+) DRAWN BY J. SAVOIE APPR'D BY K. OLECHNOWICZ SEALED BY K. OLECHNOWICZ DATE (Y–M–D) 2014–08–12
NOTE 8 MODIFIED		CROSSBRACE CONNECTION MODIFIED. BOLT SIZE INCREASED		BILL OF MATERIAL TITLE REVISED		GENERAL REVISION	

ENGINEERING SEAL.

PROFESSIONAL ENGINEER
K. OLECHNOWICZ
MEMBER 26442
2015-01-20
YR. MN. DAY
SASKATCHEWAN

DRAFTING DEPT.
DRAWN BY J. SAVOIE
CHECKED BY
DATE (Y–M–D) 2013–11–22

DESIGN DEPT.
DESIGNED BY J. MÉNARD (CIMA+)
CHECKED BY K. OLECHNOWICZ
APPROVED BY K. OLECHNOWICZ
SEALED BY K. OLECHNOWICZ
DATE (Y–M–D) 2013–11–22

SaskPower INTERNAL USE ONLY

72/138 kV
STEEL CROSSARM AND CROSS BRACE TANGENT STRUCTURE (0°–2°)
CROSS BRACE FABRICATION
FABRICATION

AUTOCAD SOURCE FILENAME: D14–902–2SW–04 RD.DWG
PLOT DATE: 2015–01–09 PAPER: C
PLOT TIME: 11:15
PLOTTED BY: JEROME.SAVOIE
SCALE: 1:20 (U.O.S.)
DRAWING No. D14 902–2SW
SHEET 4 OF 15 REV. D