

LOCATING PINS AND RETAINERS COMPONENTS INDEX

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I-21	04/22/14	Discontinued	Locating Pin Retainers
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I-23	04/22/14	Discontinued	Locating Pin Retainers
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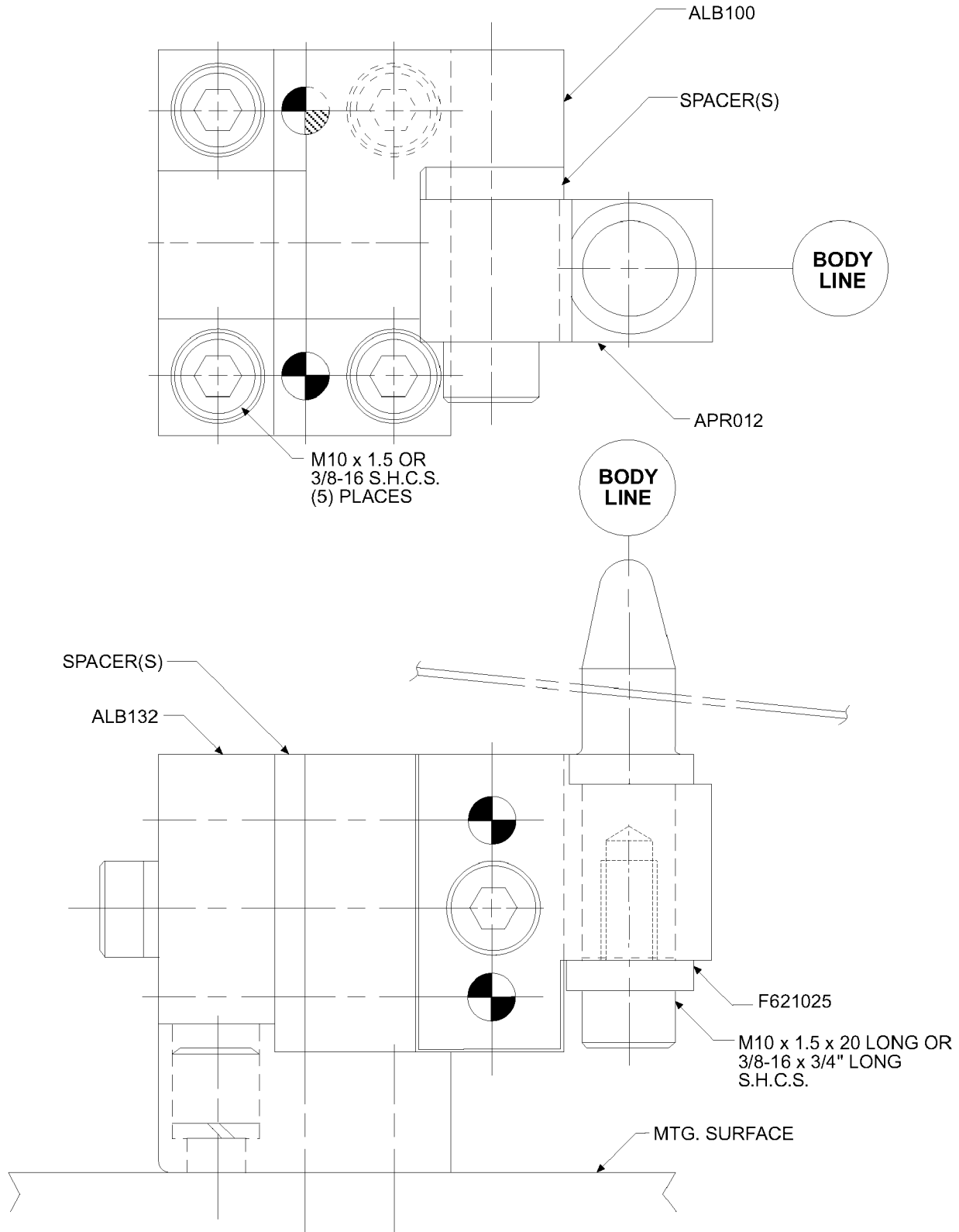
LOCATING PINS AND RETAINERS COMPONENTS INDEX

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I-26	04/22/14	Discontinued	Locating Pin Retainers
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I-35	04/30/15	APQ081–APQ208	Locating Pin 8 mm Thru 20 mm Dia. (Full Metric)
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I-41	02/12/14	APR330M–APR333M	Locating Pin Retainer (Full Metric) 20mm Series
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I-45	02/12/14	APR075M–APR076M	Locating Pin Retainer (Full Metric) 20mm Series
I-46	04/22/14	Discontinued	Locating Pin Retainer (Full Metric) 20mm Series
I-47	02/12/14	APR336M–APR339M	Locating Pin Retainer (Full Metric) 20mm Series
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I-49	04/22/14	Discontinued	Locating Pin Retainer (Full Metric) 20mm Series
I-50	02/12/14	APR077M–APR078M	Locating Pin Retainer (Full Metric) 20mm Series
I-51	02/12/14	APR250M–APR253M	Locating Pin Retainer (Full Metric) 20mm Series
I-52	02/12/14	APR255M–APR256M	Locating Pin Retainer (Full Metric) 20mm Series
I-53	02/12/14	APR201M–APR204M	Locating Pin Retainer (Full Metric) 20mm Series
I-54	02/12/14	APR211M–APR212M	Locating Pin Retainer (Full Metric) 20mm Series
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LOCATING PINS AND RETAINERS COMPONENTS INDEX

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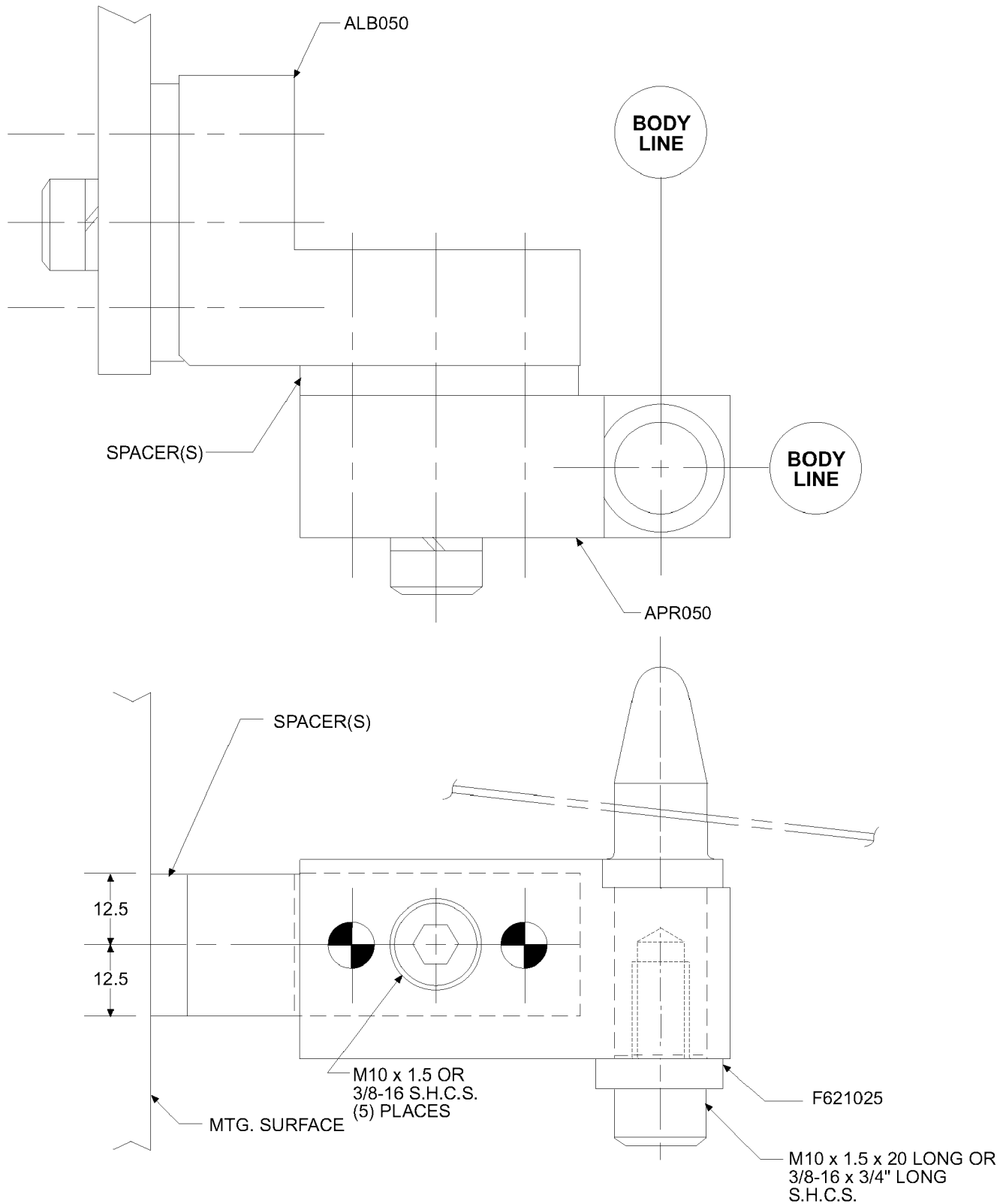
TYPICAL LOCATING PIN RETAINER ASSEMBLY



B

A
C

TYPICAL LOCATING PIN RETAINER ASSEMBLY



B
A

LOCATING PIN RETAINERS (FULL METRIC)

APR010M, 011M, 012M, 013M

GLOBAL STANDARD COMPONENTS



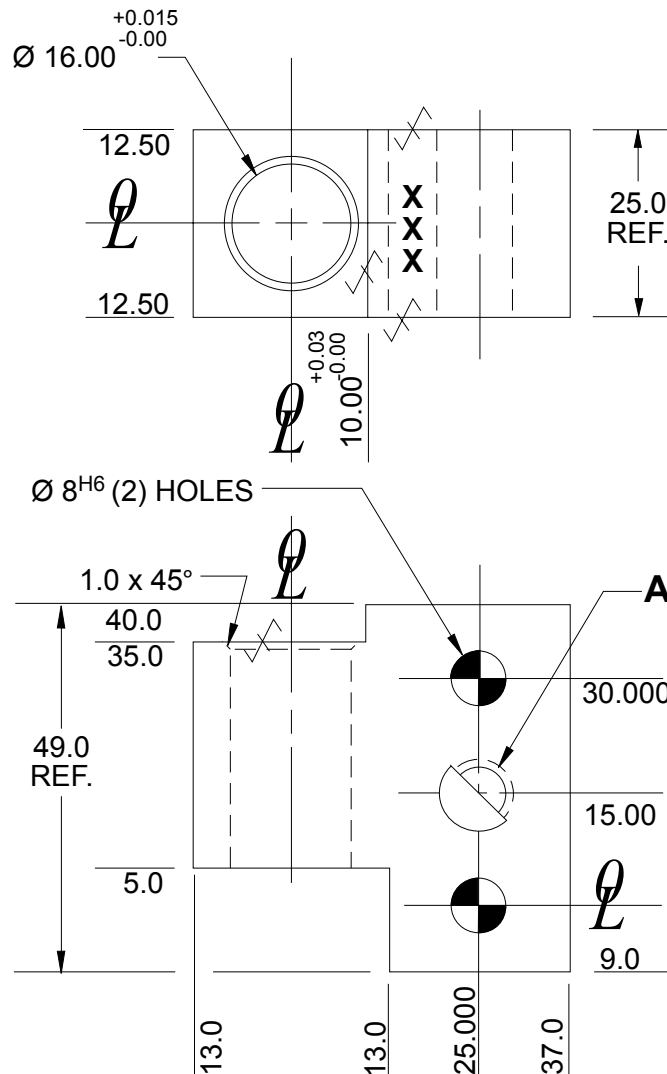
Assembly

02/12/14

Tolerances: 1 PLACE ± 0.3
 2 PLACE ± 0.03
 3 PLACE ± 0.020

$\sqrt{\text{X}}$ SURFACES TO BE FLAT, PARALLEL &
 PERPENDICULAR TO Q WITHIN 0.015 T.I.R.

NOTES: ALL DIMENSIONS METRIC UNLESS OTHERWISE NOTED.
 IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.
 BLACK OXIDE FINISH.
 NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS



SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

NAAMS CODE	A	MATERIAL	WT. kg
APR010M	M10 x 1.5	Steel / ASTM A-36	0.32
APR011M	M10 x 1.5	SS type 303 or 304	0.32
APR012M	11.0	Steel / ASTM A-36	0.32
APR013M	11.0	SS type 303 or 304	0.32

A
F

B

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LOCATING PIN RETAINERS (FULL METRIC) APR020M, 021M

GLOBAL STANDARD COMPONENTS



Assembly

02/12/14

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.020

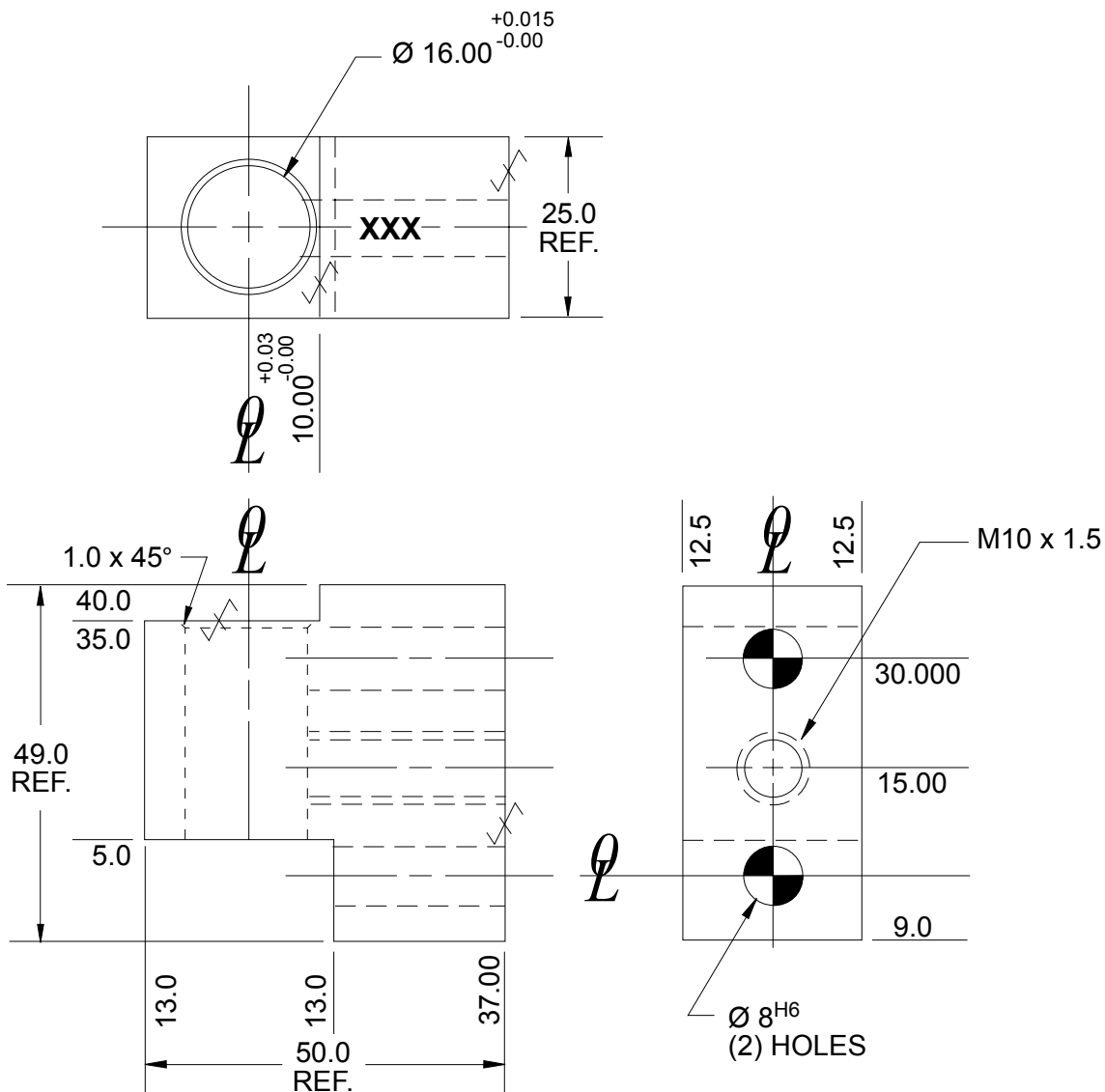
✓ SURFACES TO BE FLAT, PARALLEL &
PERPENDICULAR TO Q WITHIN 0.015 T.I.R.

NOTES: ALL DIMENSIONS METRIC UNLESS OTHERWISE NOTED.

IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN XXX.

BLACK OXIDE FINISH.

NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS



SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

NAAMS CODE	MATERIAL	WT. kg
APR020M	Steel / ASTM A-36	0.32
APR021M	SS type 303 or 304	0.32

A

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LOCATING PIN RETAINERS (FULL METRIC) APR030M, 031M, 032M, 033M

GLOBAL STANDARD COMPONENTS



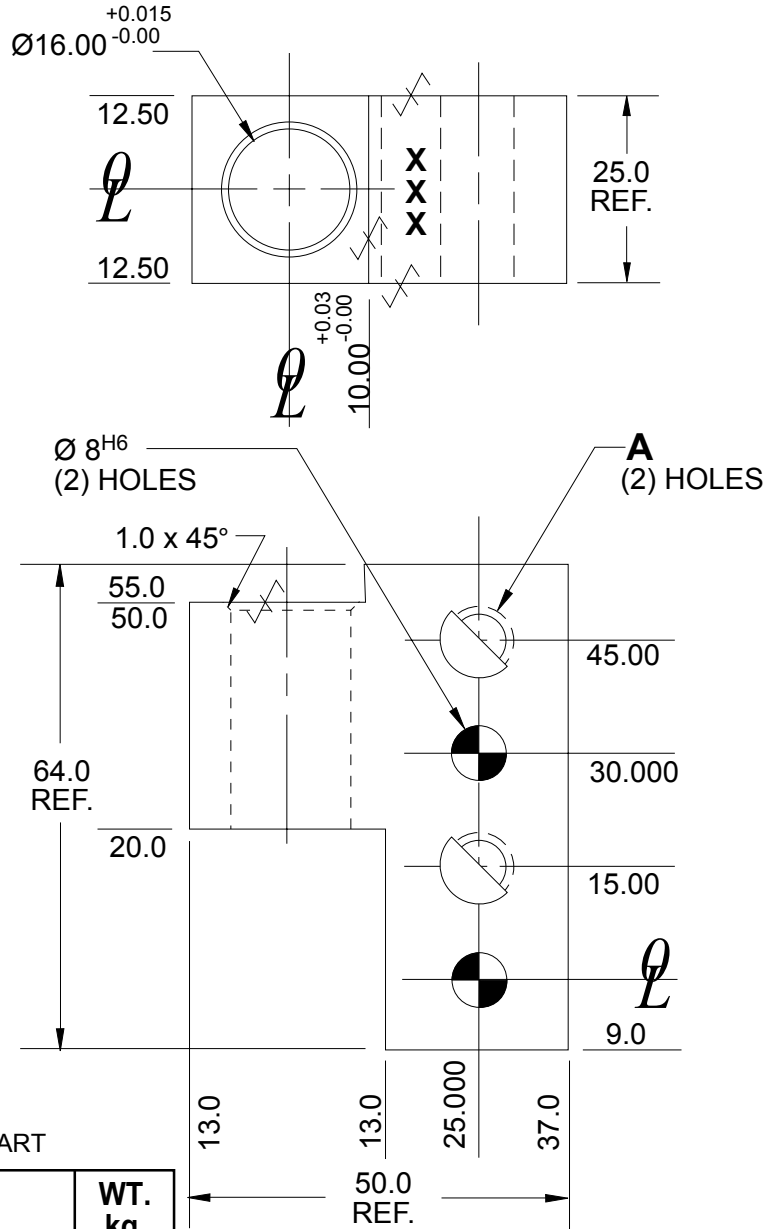
Assembly

02/12/14

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.020

✓ SURFACES TO BE FLAT, PARALLEL &
PERPENDICULAR TO Q WITHIN 0.015 T.I.R.

NOTES: ALL DIMENSIONS METRIC UNLESS OTHERWISE NOTED.
IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN XXX.
BLACK OXIDE FINISH.
NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS



SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

NAAMS CODE	A	MATERIAL	WT. kg
APR030M	M10 x 1.5	Steel / ASTM A-36	0.45
APR031M	M10 x 1.5	SS type 303 or 304	0.45
APR032M	11.0	Steel / ASTM A-36	0.45
APR033M	11.0	SS type 303 or 304	0.45

A
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LOCATING PIN RETAINERS (FULL METRIC) APR040M, 041M

GLOBAL STANDARD COMPONENTS



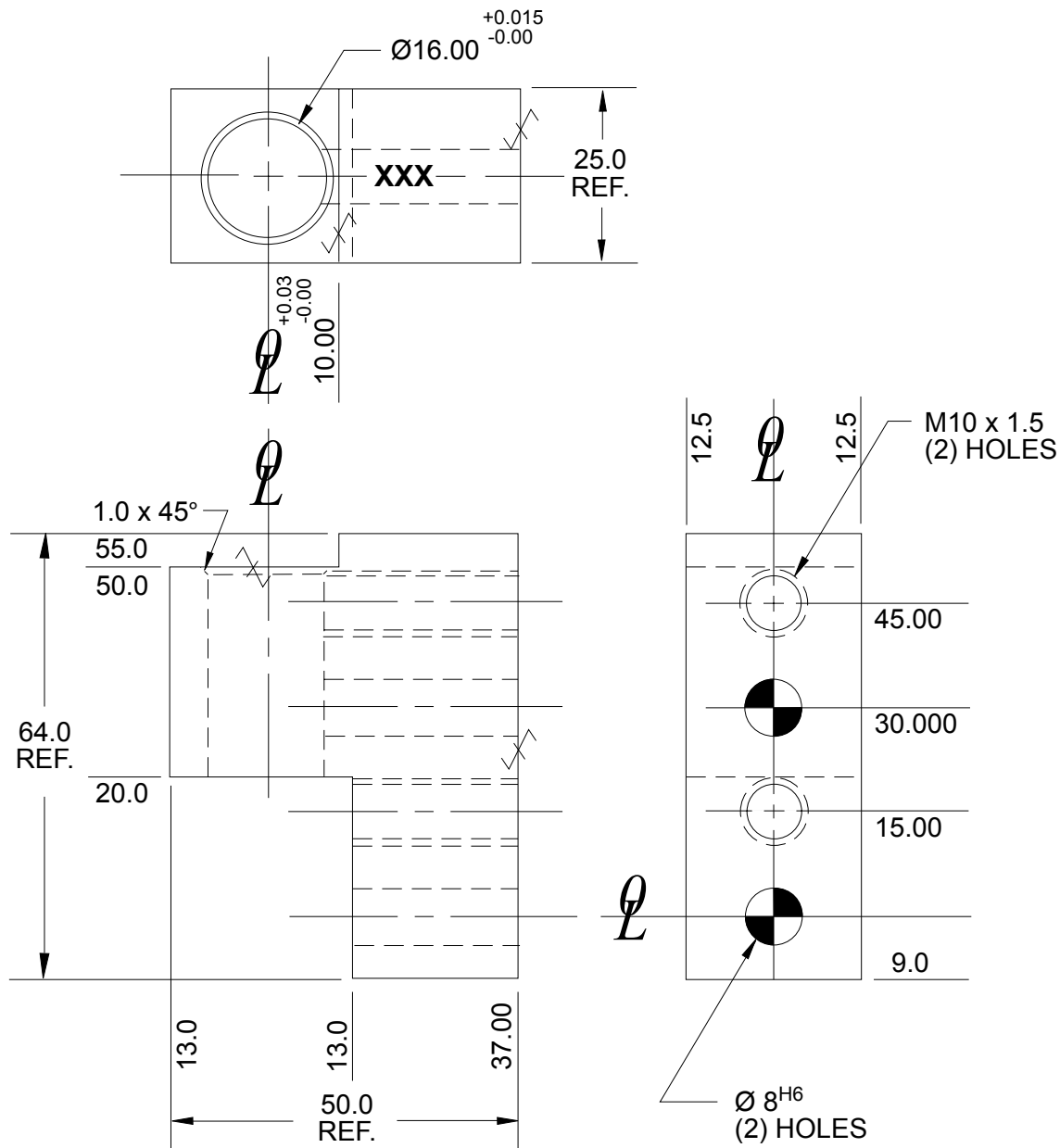
Assembly

02/12/14

- Tolerances: 1 PLACE ± 0.3
 2 PLACE ± 0.03
 3 PLACE ± 0.020

SURFACES TO BE FLAT, PARALLEL &
 PERPENDICULAR TO Q WITHIN 0.015 T.I.R.

NOTES: ALL DIMENSIONS METRIC UNLESS OTHERWISE NOTED.
 IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.
 BLACK OXIDE FINISH.
 NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS



A
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NAAMS CODE	MATERIAL	WT. kg
APR040M	Steel / ASTM A-36	0.45
APR041M	SS type 303 or 304	0.45

SEE PAGE B-1.1 FOR
 GLOBAL MATERIALS CHART

LOCATING PIN RETAINERS (FULL METRIC) APR050M, 051M

GLOBAL STANDARD COMPONENTS



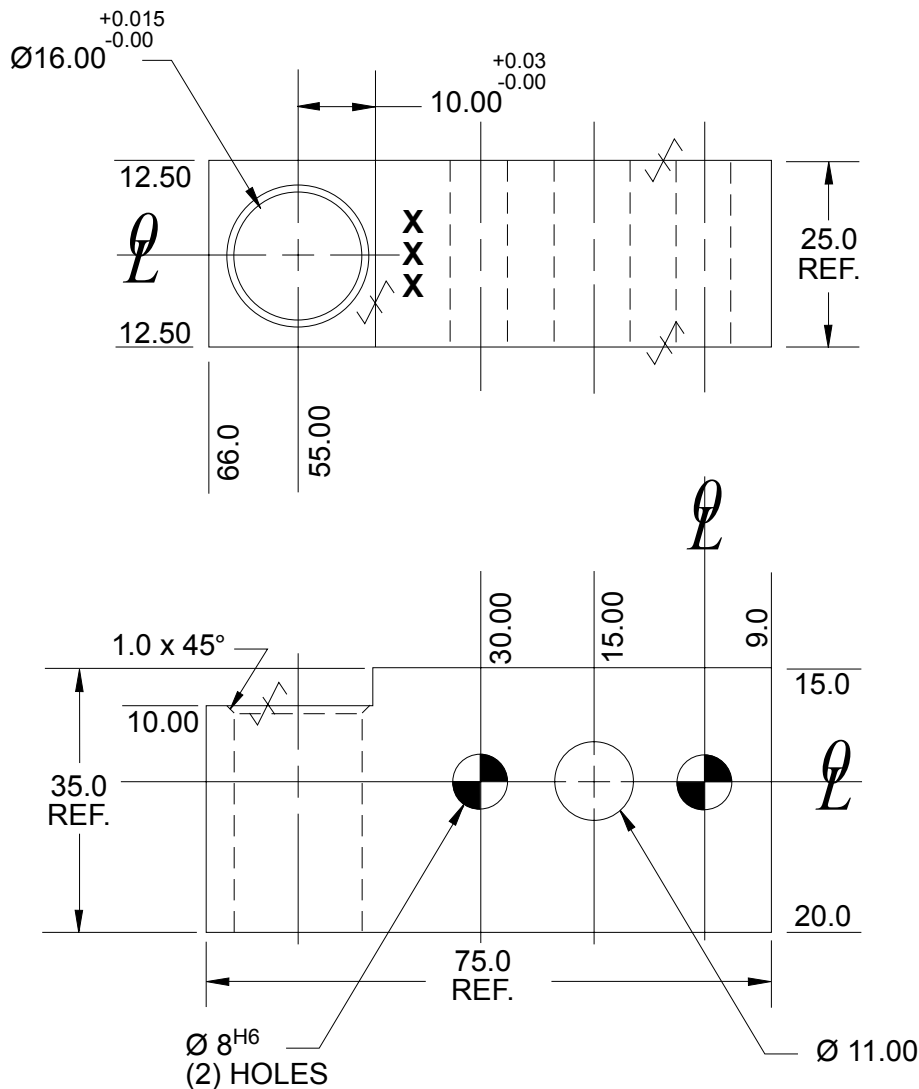
Assembly

02/12/14

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.020
BETWEEN DOWELS ± 0.015

$\sqrt{\text{X}}$ SURFACES TO BE FLAT, PARALLEL &
PERPENDICULAR TO ϕ WITHIN 0.015 T.I.R.

NOTES: ALL DIMENSIONS METRIC UNLESS OTHERWISE NOTED.
IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.
BLACK OXIDE FINISH.
NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS



SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

NAAMS CODE	MATERIAL	WT. kg
APR050M	Steel / ASTM A-36	0.41
APR051M	SS type 303 or 304	0.41

A

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LOCATING PIN RETAINERS (FULL METRIC) APR060M, 061M, 062M, 063M

GLOBAL STANDARD COMPONENTS



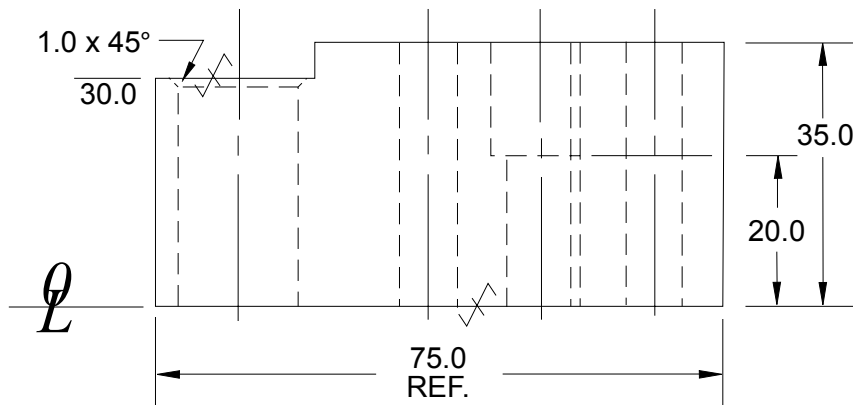
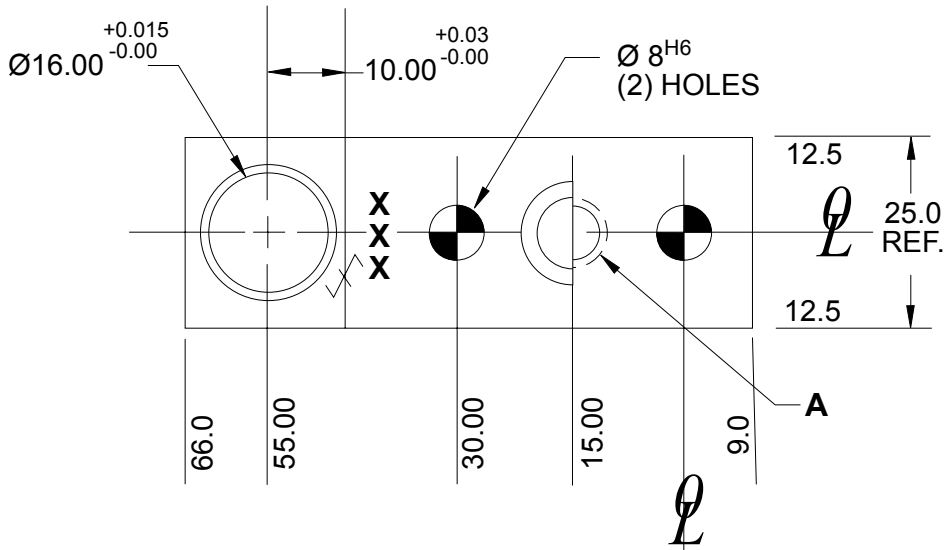
Assembly

02/12/14

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.020
BETWEEN DOWELS ± 0.015

$\sqrt{\text{X}}$ SURFACES TO BE FLAT, PARALLEL &
PERPENDICULAR TO Q WITHIN 0.015 T.I.R.

NOTES: ALL DIMENSIONS METRIC UNLESS OTHERWISE NOTED.
IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN XXX.
BLACK OXIDE FINISH.
NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS



SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

NAAMS CODE	A	MATERIAL	WT. kg
APR060M	M10 x 1.5	Steel / ASTM A-36	0.41
APR061M	M10 x 1.5	SS type 303 or 304	0.41
APR062M	Drill & C/Bore for M10 SHCS	Steel / ASTM A-36	0.41
APR063M	Drill & C/Bore for M10 SHCS	SS type 303 or 304	0.41

A

E

D

B

C

LOCATING PIN RETAINERS (FULL METRIC) APR070M, 071M

GLOBAL STANDARD COMPONENTS



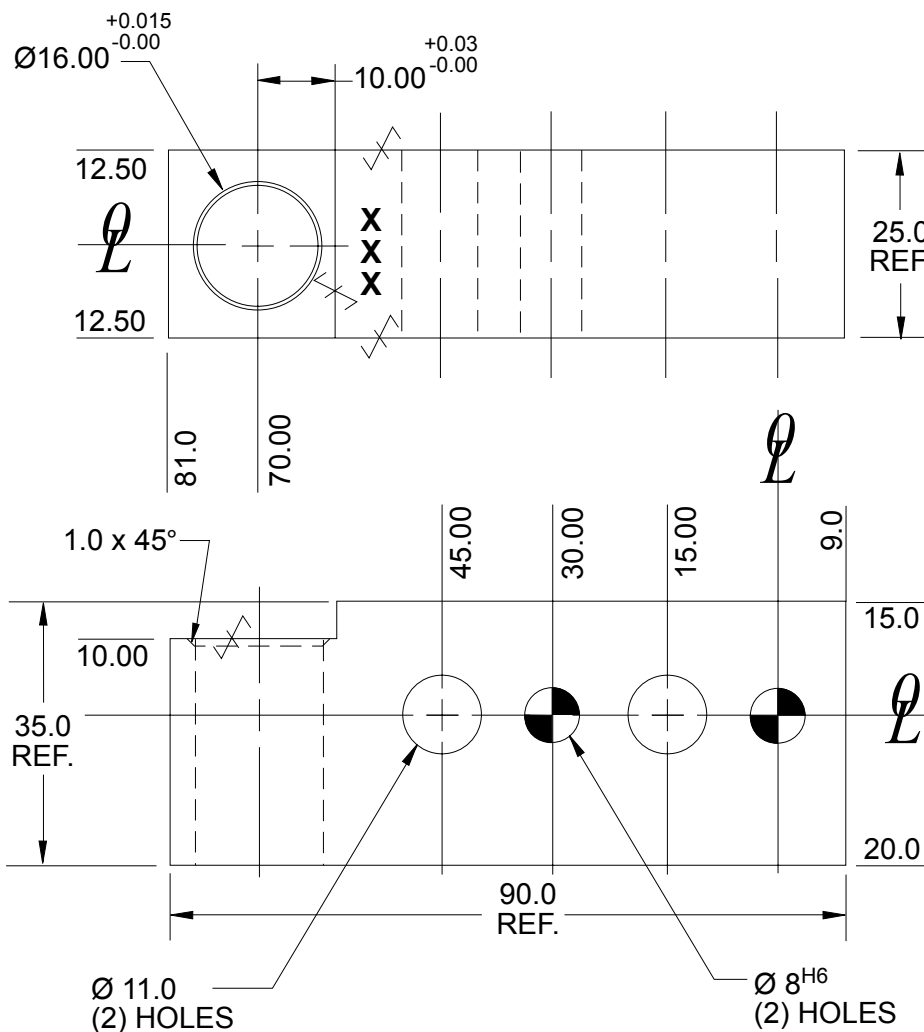
Assembly

02/12/14

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.020
BETWEEN DOWELS ± 0.015



SURFACES TO BE FLAT, PARALLEL &
PERPENDICULAR TO Q WITHIN 0.015 T.I.R.
NOTES: ALL DIMENSIONS METRIC UNLESS OTHERWISE NOTED.
IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.
BLACK OXIDE FINISH.
NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS



SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

NAAMS CODE	MATERIAL	WT. kg
APR070M	Steel / ASTM A-36	0.45
APR071M	SS type 303 or 304	0.45

A

E

D

B

C

LOCATING PIN 6mm THRU 19mm DIAMETER (FULL METRIC)

GLOBAL STANDARD COMPONENTS



Assembly

04/30/15

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.015

ALL MACHINED SURFACES TO FLAT.
PARALLEL AND PERPENDICULAR TO WITHIN
0.015 T.I.R. TO DATUMS A AND B AND
CONCENTRIC TO WITHIN 0.03 T.I.R.

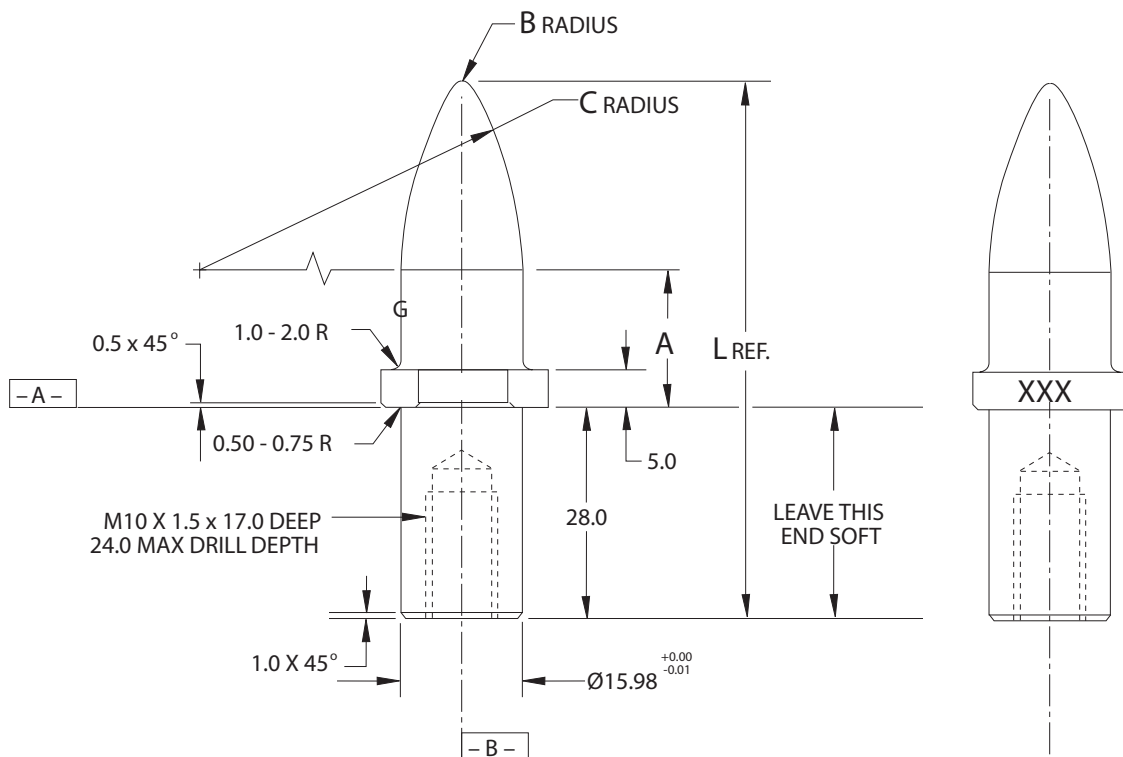
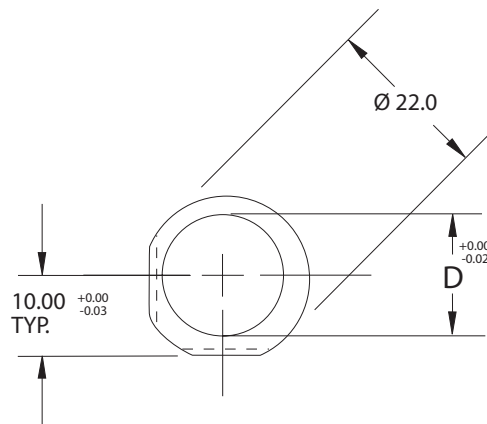
MATERIAL: S.A.E. 8620 STEEL

HARDNESS: 58 - 62 Rc TO A DEPTH OF 0.5 - 0.7 mm
AFTER GRINDING

NOTE: IDENTIFY WITH NAAMS CODE NUMBER AS
SHOWN **XXX**.

PINS WITH TIN CODES SHALL HAVE 1 TO 2 MICRONS
OF TITANIUM NITRIDE ADDED TO SURFACES
B, C, AND D (MINIMUM SURFACES). COATING
PROCESS SHALL NOT NEGATIVELY IMPACT PIN
HARDNESS.

SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART



TABULATED INFORMATION ON FOLLOWING PAGE

A
F
H
I

D

D
B
E
C
G

LOCATING PIN

6 mm THRU 19 mm DIAMETER (FULL METRIC)

6 mm Round Hole
 B Rad = 1.0
 C Rad = 18.0
 D = 5.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APS061M	APS061MT	15.0	51.8	0.05
APS062M	APS062MT	20.0	56.8	0.05
APS063M	APS063MT	30.0	66.8	0.05
APS064M	APS064MT	40.0	76.8	0.05
APS065M	APS065MT	50.0	86.8	0.06
APS066M	APS066MT	60.0	96.8	0.06

8 mm Round Hole
 B Rad = 1.0
 C Rad = 24.0
 D = 7.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APS081M	APS081MT	15.0	55.1	0.05
APS082M	APS082MT	20.0	60.1	0.05
APS083M	APS083MT	30.0	70.1	0.06
APS084M	APS084MT	40.0	80.1	0.06
APS085M	APS085MT	50.0	90.1	0.06
APS086M	APS086MT	60.0	100.1	0.07
APS087M	APS087MT	70.0	110.1	0.07
APS088M	APS088MT	80.0	120.1	0.08

10 mm Round Hole
 B Rad = 2.0
 C Rad = 30.0
 D = 9.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APS101M	APS101MT	15.0	57.4	0.06
APS102M	APS102MT	20.0	62.4	0.06
APS103M	APS103MT	30.0	72.4	0.07
APS104M	APS104MT	40.0	82.4	0.07
APS105M	APS105MT	50.0	92.4	0.08
APS106M	APS106MT	60.0	102.4	0.08
APS107M	APS107MT	70.0	112.4	0.09
APS108M	APS108MT	80.0	122.4	0.10
APS109M	APS109MT	90.0	132.4	0.10
APS100M	APS100MT	100.0	142.4	0.11

12 mm Round Hole
 B Rad = 2.0
 C Rad = 36.0
 D = 11.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APS121M	APS121MT	15.0	60.8	0.07
APS122M	APS122MT	20.0	65.8	0.07
APS123M	APS123MT	30.0	75.8	0.08
APS124M	APS124MT	40.0	85.8	0.09
APS125M	APS125MT	50.0	95.8	0.10
APS126M	APS126MT	60.0	105.8	0.11
APS127M	APS127MT	70.0	115.8	0.12
APS128M	APS128MT	80.0	125.8	0.13
APS129M	APS129MT	90.0	135.8	0.13
APS120M	APS120MT	100.0	145.8	0.14

13 mm Round Hole
 B Rad = 2.0
 C Rad = 39.0
 D = 12.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APS131M	APS131MT	15.0	62.4	0.07
APS132M	APS132MT	20.0	67.4	0.07
APS133M	APS133MT	30.0	77.4	0.08
APS134M	APS134MT	40.0	87.4	0.09
APS135M	APS135MT	50.0	97.4	0.10
APS136M	APS136MT	60.0	107.4	0.11
APS137M	APS137MT	70.0	117.4	0.12
APS138M	APS138MT	80.0	127.4	0.13
APS139M	APS139MT	90.0	137.4	0.14
APS130M	APS130MT	100.0	147.4	0.15

16 mm Round Hole
 B Rad = 2.0
 C Rad = 48.0
 D = 15.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APS161M	APS161MT	15.0	67.5	0.09
APS162M	APS162MT	20.0	72.5	0.09
APS163M	APS163MT	30.0	82.5	0.11
APS164M	APS164MT	40.0	92.5	0.13
APS165M	APS165MT	50.0	102.5	0.14
APS166M	APS166MT	60.0	112.5	0.16
APS167M	APS167MT	70.0	122.5	0.17
APS168M	APS168MT	80.0	132.5	0.19
APS169M	APS169MT	90.0	142.5	0.20
APS160M	APS160MT	100.0	152.5	0.22

19 mm Round Hole
 B Rad = 2.0
 C Rad = 38.0
 D = 18.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APS191M	APS191MT	15.0	66.8	0.10
APS192M	APS192MT	20.0	71.8	0.12
APS193M	APS193MT	30.0	81.8	0.14
APS194M	APS194MT	40.0	91.8	0.16
APS195M	APS195MT	50.0	101.8	0.18
APS196M	APS196MT	60.0	111.8	0.20
APS197M	APS197MT	70.0	121.8	0.22
APS198M	APS198MT	80.0	131.8	0.24
APS199M	APS199MT	90.0	141.8	0.27
APS190M	APS190MT	100.0	151.8	0.29

A
C
B

LOCATING PIN 25mm DIAMETER (FULL METRIC)

GLOBAL STANDARD COMPONENTS



Assembly

04/30/15

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.015

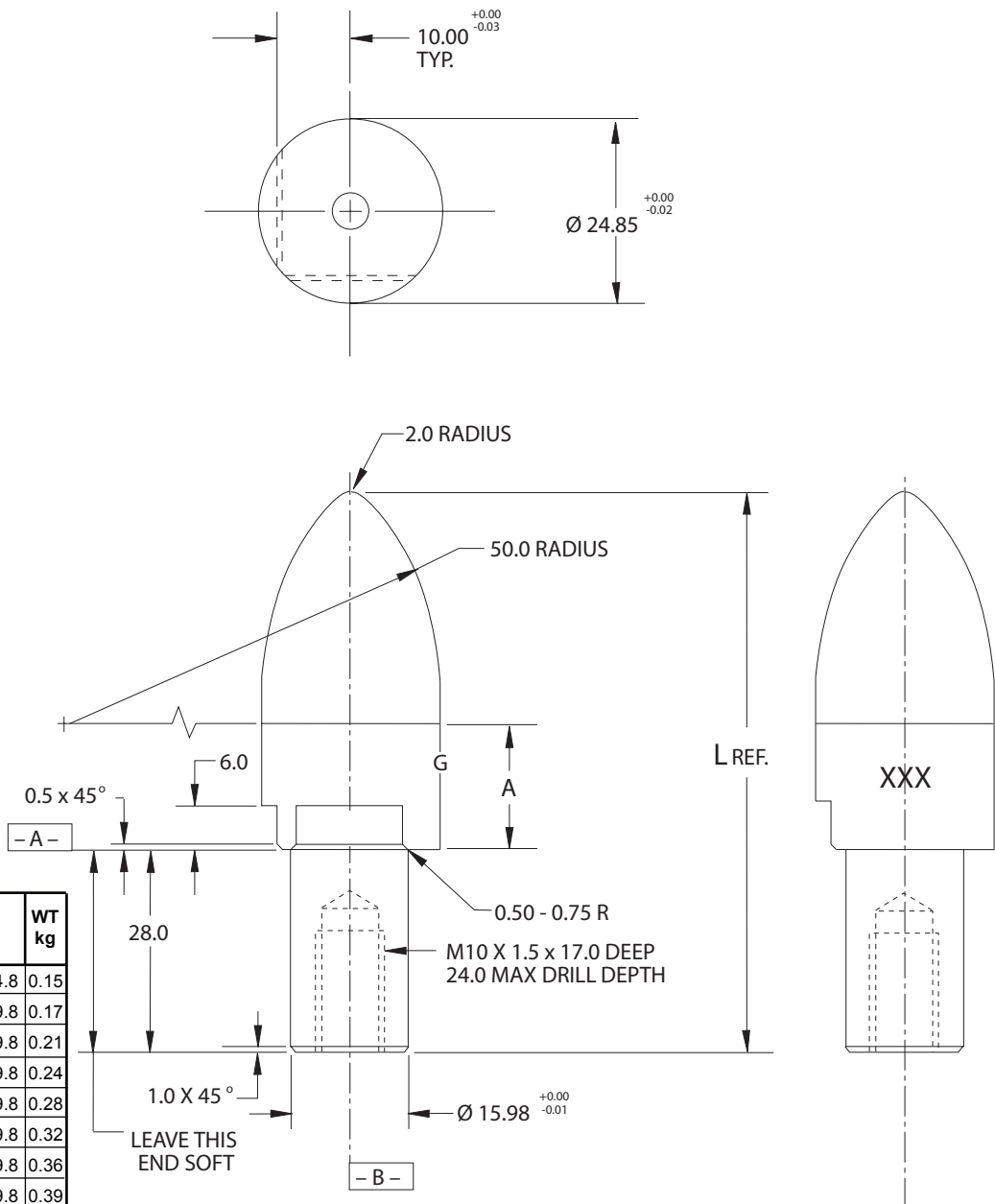
ALL MACHINED SURFACES TO FLAT.
PARALLEL AND PERPENDICULAR TO WITHIN
0.015 T.I.R. TO DATUMS A AND B AND
CONCENTRIC TO WITHIN 0.03 T.I.R.

MATERIAL: S.A.E. 8620 STEEL
HARDNESS: 58 - 62 Rc TO A DEPTH OF 0.5 - 0.7 mm
AFTER GRINDING

NOTE: IDENTIFY WITH NAAMS CODE NUMBER AS
SHOWN **XXX**.

PINS WITH TIN CODES SHALL HAVE 1 TO 2 MICRONS
OF TITANIUM NITRIDE ADDED TO ALL SURFACES
ABOVE THE -A- DATUM (MINIMUM SURFACES).
COATING PROCESS SHALL NOT NEGATIVELY
IMPACT PIN HARDNESS.

SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART



NAAMS CODE	TIN CODE	A	L	WT kg
APS251M	APS251MT	15.0	74.8	0.15
APS252M	APS252MT	20.0	79.8	0.17
APS253M	APS253MT	30.0	89.8	0.21
APS254M	APS254MT	40.0	99.8	0.24
APS255M	APS255MT	50.0	109.8	0.28
APS256M	APS256MT	60.0	119.8	0.32
APS257M	APS257MT	70.0	129.8	0.36
APS258M	APS258MT	80.0	139.8	0.39
APS259M	APS259MT	90.0	149.8	0.43
APS250M	APS250MT	100.0	159.8	0.47

A
F
J
L

D

D
B
E
C
H
K

I

LOCATING PIN FOR 6 x 12 THRU 19 x 25 mm SLOTTED HOLES (FULL METRIC)

GLOBAL STANDARD COMPONENTS



Assembly

04/30/15

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.015

ALL MACHINED SURFACES TO FLAT.
PARALLEL AND PERPENDICULAR TO WITHIN
0.015 T.I.R. TO DATUMS A AND B AND
CONCENTRIC TO WITHIN 0.03 T.I.R.

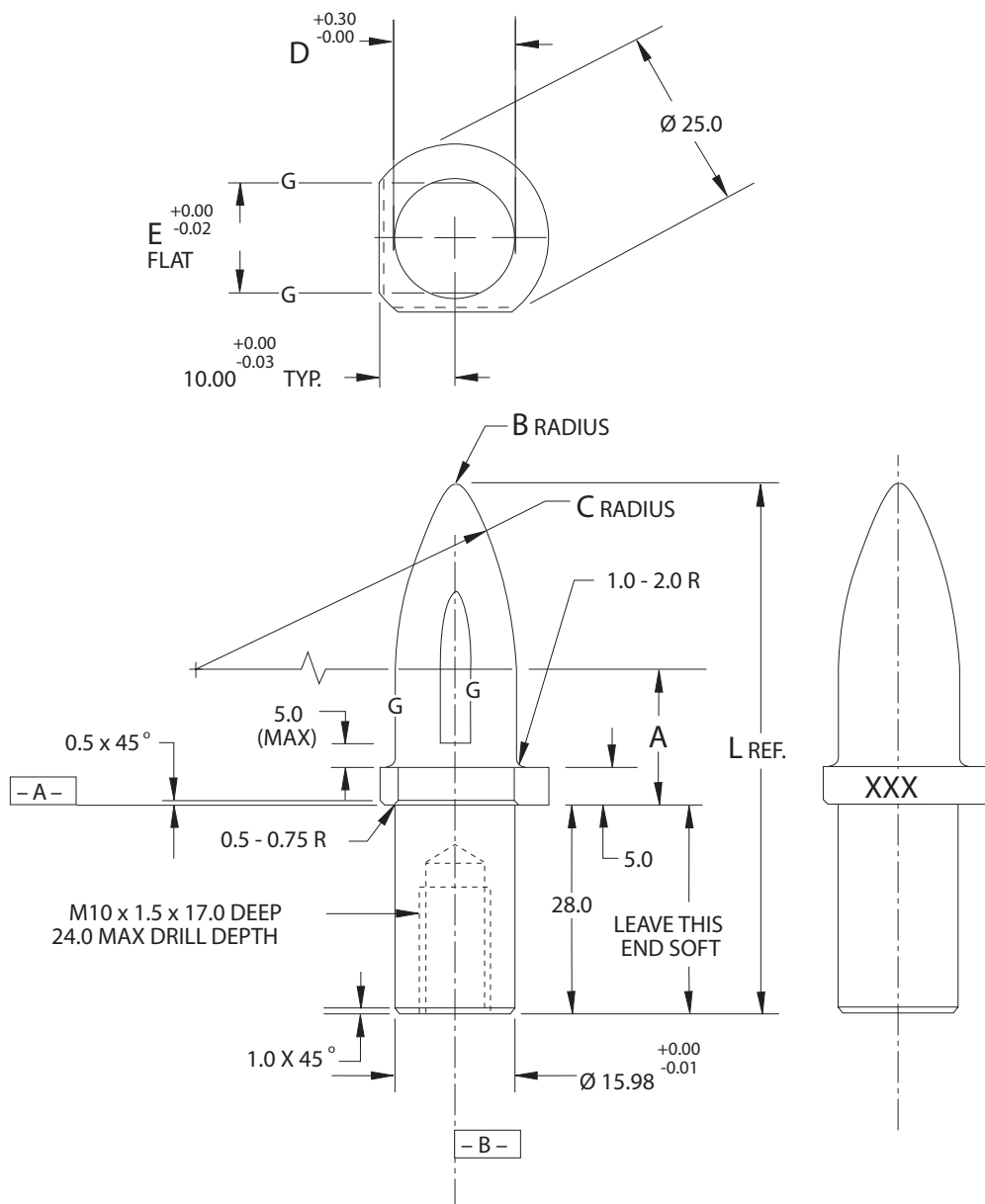
MATERIAL: S.A.E. 8620 STEEL

HARDNESS: 58 - 62 Rc TO A DEPTH OF 0.5 - 0.7 mm
AFTER GRINDING

NOTE: IDENTIFY WITH NAAMS CODE NUMBER AS
SHOWN XXX

PINS WITH TIN CODES SHALL HAVE 1 TO 2 MICRONS
OF TITANIUM NITRIDE ADDED TO SURFACES
B, C, D AND E (MINIMUM SURFACES). COATING
PROCESS SHALL NOT NEGATIVELY IMPACT PIN
HARDNESS.

SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART



A
E
G
H

D
B
C
F

TABULATED INFORMATION ON FOLLOWING PAGE

LOCATING PIN

FOR 6 x 12 THRU 19 x 25 mm TM

SLOTTED HOLES(FULL METRIC)

GLOBAL STANDARD COMPONENTS



Assembly

02/12/14

6 x 12 Slotted Hole
 B Rad = 1.0
 C Rad = 18.0
 D = 7.09
 E = 5.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APE061M	APE061MT	15.0	52.9	0.05
APE062M	APE062MT	20.0	57.9	0.05
APE063M	APE063MT	30.0	67.9	0.05
APE064M	APE064MT	40.0	77.9	0.06
APE065M	APE065MT	50.0	87.9	0.06
APE066M	APE066MT	60.0	97.9	0.06

8 x 14 Slotted Hole
 B Rad = 1.0
 C Rad = 24.0
 D = 8.81
 E = 7.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APE081M	APE081MT	15.0	56.0	0.05
APE082M	APE082MT	20.0	61.0	0.06
APE083M	APE083MT	30.0	71.0	0.06
APE084M	APE084MT	40.0	81.0	0.07
APE085M	APE085MT	50.0	91.0	0.07
APE086M	APE086MT	60.0	101.0	0.08
APE087M	APE087MT	70.0	111.0	0.08
APE088M	APE088MT	80.0	121.0	0.08

10 x 16 Slotted Hole
 B Rad = 2.0
 C Rad = 30.0
 D = 10.63
 E = 9.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APE101M	APE101MT	15.0	58.2	0.06
APE102M	APE102MT	20.0	63.2	0.06
APE103M	APE103MT	30.0	73.2	0.07
APE104M	APE104MT	40.0	83.2	0.08
APE105M	APE105MT	50.0	93.2	0.08
APE106M	APE106MT	60.0	103.2	0.09
APE107M	APE107MT	70.0	113.2	0.10
APE108M	APE108MT	80.0	123.2	0.10
APE109M	APE109MT	90.0	133.2	0.11
APE100M	APE100MT	100.0	143.2	0.12

12 x 18 Slotted Hole
 B Rad = 2.0
 C Rad = 36.0
 D = 12.50
 E = 11.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APE121M	APE121MT	15.0	62.2	0.07
APE122M	APE122MT	20.0	67.2	0.07
APE123M	APE123MT	30.0	77.2	0.08
APE124M	APE124MT	40.0	87.2	0.09
APE125M	APE125MT	50.0	97.2	0.10
APE126M	APE126MT	60.0	107.2	0.11
APE127M	APE127MT	70.0	117.2	0.12
APE128M	APE128MT	80.0	127.2	0.13
APE129M	APE129MT	90.0	137.2	0.14
APE120M	APE120MT	100.0	147.2	0.15

13 x 19 Slotted Hole
 B Rad = 2.0
 C Rad = 39.0
 D = 13.46
 E = 12.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APE131M	APE131MT	15.0	63.1	0.07
APE132M	APE132MT	20.0	68.1	0.08
APE133M	APE133MT	30.0	78.1	0.09
APE134M	APE134MT	40.0	88.1	0.10
APE135M	APE135MT	50.0	98.1	0.11
APE136M	APE136MT	60.0	108.1	0.12
APE137M	APE137MT	70.0	118.1	0.13
APE138M	APE138MT	80.0	128.1	0.14
APE139M	APE139MT	90.0	138.1	0.16
APE130M	APE130MT	100.0	148.1	0.17

16 x 22 Slotted Hole
 B Rad = 2.0
 C Rad = 48.0
 D = 16.35
 E = 15.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APE161M	APE161MT	15.0	68.0	0.09
APE162M	APE162MT	20.0	73.0	0.10
APE163M	APE163MT	30.0	83.0	0.11
APE164M	APE164MT	40.0	93.0	0.13
APE165M	APE165MT	50.0	103.0	0.15
APE166M	APE166MT	60.0	113.0	0.16
APE167M	APE167MT	70.0	123.0	0.18
APE168M	APE168MT	80.0	133.0	0.20
APE169M	APE169MT	90.0	143.0	0.21
APE160M	APE160MT	100.0	153.0	0.23

19 x 25 Slotted Hole
 B Rad = 2.0
 C Rad = 38.0
 D = 19.27
 E = 18.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APE191M	APE191MT	15.0	67.2	0.11
APE192M	APE192MT	20.0	72.2	0.12
APE193M	APE193MT	30.0	82.2	0.14
APE194M	APE194MT	40.0	92.2	0.16
APE195M	APE195MT	50.0	102.2	0.19
APE196M	APE196MT	60.0	112.2	0.21
APE197M	APE197MT	70.0	122.2	0.23
APE198M	APE198MT	80.0	132.2	0.25
APE199M	APE199MT	90.0	142.2	0.28
APE190M	APE190MT	100.0	152.2	0.30

A
B
D

C

LOCATING PIN FOR 25 x 31 mm SLOTTED HOLES (FULL METRIC)

GLOBAL STANDARD COMPONENTS



Assembly

04/30/15

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.015

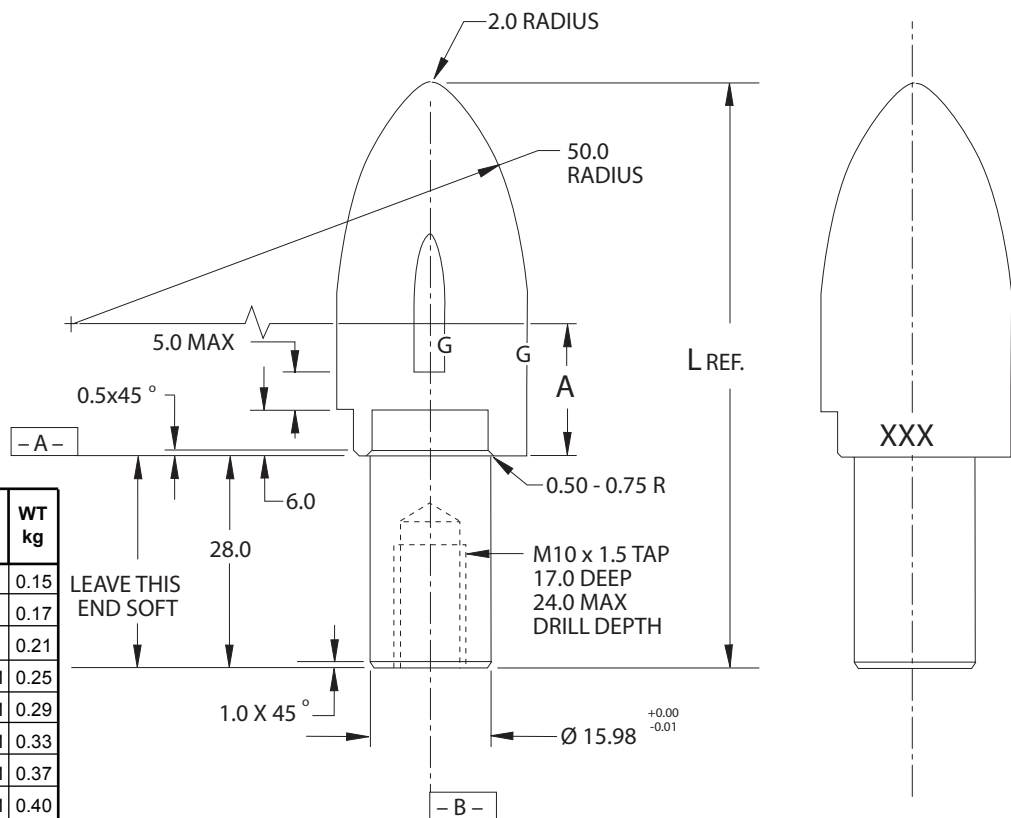
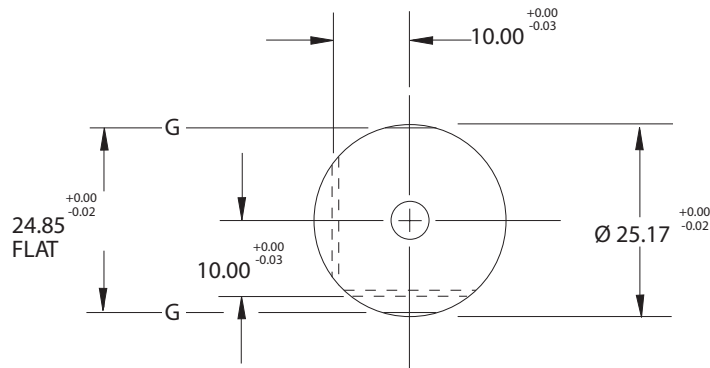
ALL MACHINED SURFACES TO FLAT.
PARALLEL AND PERPENDICULAR TO WITHIN
0.015 T.I.R. TO DATUMS A AND B AND
CONCENTRIC TO WITHIN 0.03 T.I.R.

MATERIAL: S.A.E. 8620 STEEL

HARDNESS: 58 - 62 Rc TO A DEPTH OF 0.5 - 0.7 mm
AFTER GRINDING

NOTE: IDENTIFY WITH NAAMS CODE NUMBER AS
SHOWN XXX.

PINS WITH TiN CODES SHALL HAVE 1 TO 2 MICRONS
OF TITANIUM NITRIDE ADDED TO ALL SURFACES
ABOVE THE -A- DATUM (MINIMUM SURFACES)
COATING PROCESS SHALL NOT NEGATIVELY
IMPACT PINHARDNESS.
SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART.



NAAMS CODE	TiN CODE	A	L	WT kg
APE251M	APE251MT	15.0	75.1	0.15
APE252M	APE252MT	20.0	80.1	0.17
APE253M	APE253MT	30.0	90.1	0.21
APE254M	APE254MT	40.0	100.1	0.25
APE255M	APE255MT	50.0	110.1	0.29
APE256M	APE256MT	60.0	120.1	0.33
APE257M	APE257MT	70.0	130.1	0.37
APE258M	APE258MT	80.0	140.1	0.40
APE259M	APE259MT	90.0	150.1	0.44
APE250M	APE250MT	100.0	160.1	0.48

LEAVE THIS
END SOFT

A
F
I
K

D
B
C
E
G
H
J

LOCATING PIN 6mm THRU 19mm DIAMETER (FULL METRIC)

GLOBAL STANDARD COMPONENTS

TM **NAAMS**



Assembly

04/30/15

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.015

ALL MACHINED SURFACES TO FLAT.
PARALLEL AND PERPENDICULAR TO WITHIN
0.015 T.I.R. TO DATUMS A AND B AND
CONCENTRIC TO WITHIN 0.03 T.I.R.

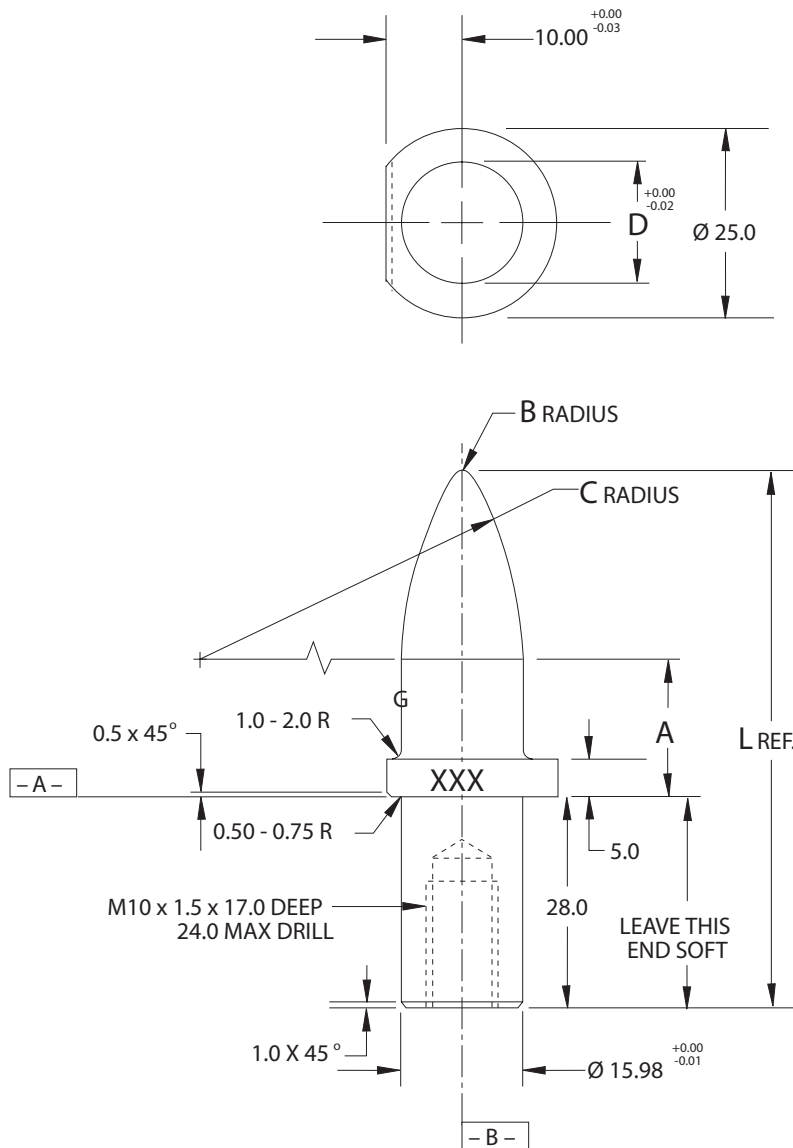
MATERIAL: S.A.E. 8620 STEEL

HARDNESS: 58 - 62 Rc TO A DEPTH OF 0.5 - 0.7 mm
AFTER GRINDING

NOTE: IDENTIFY WITH NAAMS CODE NUMBER AS
SHOWN **XXX**.

PINS WITH TIN CODES SHALL HAVE 1 TO 2 MICRONS
OF TITANIUM NITRIDE ADDED TO SURFACES
B, C AND D (MINIMUM SURFACES). COATING
PROCESS SHALL NOT NEGATIVELY IMPACT PIN
HARDNESS.

SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART



NOTE: DIMENSIONS FOR THIS SERIES OF PINS ARE THE SAME AS FOR THE LOCATING PINS. 6mm THRU 19mm DIAMETER EXCEPT FOR TABULATED INFORMATION ON THE FOLLOWING PAGE

A
E
G
H

B
D
C
F

RESPOT PIN

6 mm THRU 19 mm DIAMETER

6 mm Round Hole
 B Rad = 1.0
 C Rad = 18.0
 D = 5.72

8 mm Round Hole
 B Rad = 1.0
 C Rad = 24.0
 D = 7.72

10 mm Round Hole
 B Rad = 2.0
 C Rad = 30.0
 D = 9.72

NAAMS CODE	TiN CODE	A	L	WT. kg
ARP061M	ARP061MT	15.0	51.8	0.05
ARP062M	ARP062MT	20.0	56.8	0.05
ARP063M	ARP063MT	30.0	66.8	0.05
ARP064M	ARP064MT	40.0	76.8	0.05
ARP065M	ARP065MT	50.0	86.8	0.05
ARP066M	ARP066MT	60.0	96.8	0.06

NAAMS CODE	TiN CODE	A	L	WT. kg
ARP081M	ARP081MT	15.0	55.1	0.05
ARP082M	ARP082MT	20.0	60.1	0.05
ARP083M	ARP083MT	30.0	70.1	0.06
ARP084M	ARP084MT	40.0	80.1	0.06
ARP085M	ARP085MT	50.0	90.1	0.06
ARP086M	ARP086MT	60.0	100.1	0.07
ARP087M	ARP087MT	70.0	110.1	0.07
ARP088M	ARP088MT	80.0	120.1	0.08

NAAMS CODE	TiN CODE	A	L	WT. kg
ARP101M	ARP101MT	15.0	57.4	0.06
ARP102M	ARP102MT	20.0	62.4	0.06
ARP103M	ARP103MT	30.0	72.4	0.07
ARP104M	ARP104MT	40.0	82.4	0.07
ARP105M	ARP105MT	50.0	92.4	0.08
ARP106M	ARP106MT	60.0	102.4	0.08
ARP107M	ARP107MT	70.0	112.4	0.09
ARP108M	ARP108MT	80.0	122.4	0.09
ARP109M	ARP109MT	90.0	132.4	0.10
ARP100M	ARP100MT	100.0	142.4	0.11

12 mm Round Hole
 B Rad = 2.0
 C Rad = 36.0
 D = 11.72

NAAMS CODE	TiN CODE	A	L	WT. kg
ARP121M	ARP121MT	15.0	60.8	0.07
ARP122M	ARP122MT	20.0	65.8	0.07
ARP123M	ARP123MT	30.0	75.8	0.08
ARP124M	ARP124MT	40.0	85.8	0.08
ARP125M	ARP125MT	50.0	95.8	0.09
ARP126M	ARP126MT	60.0	105.8	0.10
ARP127M	ARP127MT	70.0	115.8	0.11
ARP128M	ARP128MT	80.0	125.8	0.12
ARP129M	ARP129MT	90.0	135.8	0.13
ARP120M	ARP120MT	100.0	145.8	0.14

13 mm Round Hole
 B Rad = 2.0
 C Rad = 39.0
 D = 12.72

NAAMS CODE	TiN CODE	A	L	WT. kg
ARP131M	ARP131MT	15.0	62.4	0.07
ARP132M	ARP132MT	20.0	67.4	0.07
ARP133M	ARP133MT	30.0	77.4	0.08
ARP134M	ARP134MT	40.0	87.4	0.09
ARP135M	ARP135MT	50.0	97.4	0.10
ARP136M	ARP136MT	60.0	107.4	0.11
ARP137M	ARP137MT	70.0	117.4	0.12
ARP138M	ARP138MT	80.0	127.4	0.13
ARP139M	ARP139MT	90.0	137.4	0.14
ARP130M	ARP130MT	100.0	147.4	0.15

16 mm Round Hole
 B Rad = 2.0
 C Rad = 48.0
 D = 15.72

NAAMS CODE	TiN CODE	A	L	WT. kg
ARP161M	ARP161MT	15.0	67.5	0.08
ARP162M	ARP162MT	20.0	72.5	0.09
ARP163M	ARP163MT	30.0	82.5	0.10
ARP164M	ARP164MT	40.0	92.5	0.12
ARP165M	ARP165MT	50.0	102.5	0.13
ARP166M	ARP166MT	60.0	112.5	0.15
ARP167M	ARP167MT	70.0	122.5	0.16
ARP168M	ARP168MT	80.0	132.5	0.18
ARP169M	ARP169MT	90.0	142.5	0.20
ARP160M	ARP160MT	100.0	152.5	0.21

19 mm Round Hole
 B Rad = 2.0
 C Rad = 38.0
 D = 18.72

NAAMS CODE	TiN CODE	A	L	WT. kg
ARP191M	ARP191MT	15.0	66.8	0.10
ARP192M	ARP192MT	20.0	71.8	0.11
ARP193M	ARP193MT	30.0	81.8	0.14
ARP194M	ARP194MT	40.0	91.8	0.16
ARP195M	ARP195MT	50.0	101.8	0.18
ARP196M	ARP196MT	60.0	111.8	0.20
ARP197M	ARP197MT	70.0	121.8	0.22
ARP198M	ARP198MT	80.0	131.8	0.24
ARP199M	ARP199MT	90.0	141.8	0.26
ARP190M	ARP190MT	100.0	151.8	0.28

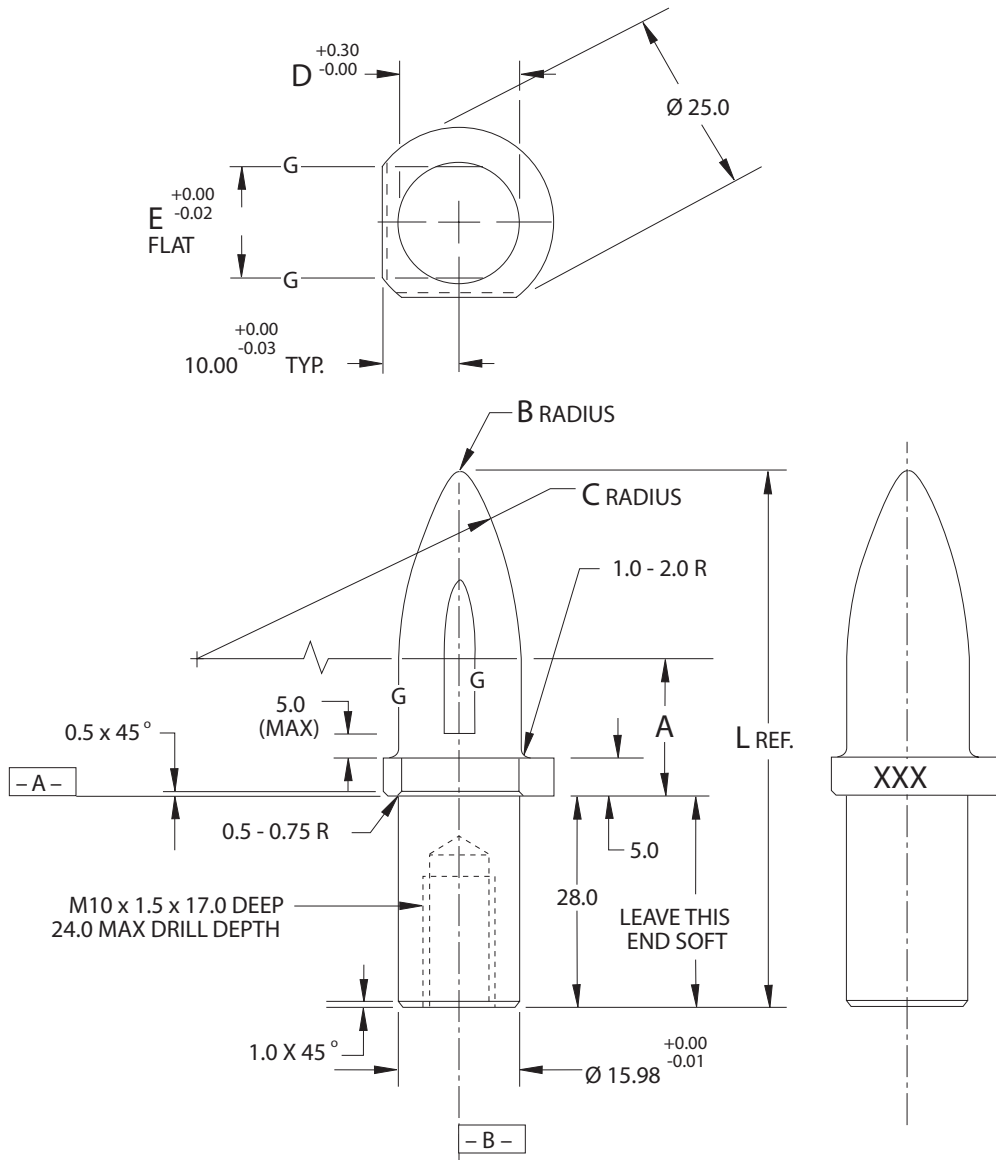
A
C

B

LOCATING PIN FOR 6 x 12 THRU 19 x 25 mm SLOTTED HOLES (FULL METRIC)

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.015
ALL MACHINED SURFACES TO FLAT.
PARALLEL AND PERPENDICULAR TO WITHIN
0.015 T.I.R. TO DATUMS A AND B AND
CONCENTRIC TO WITHIN 0.03 T.I.R.
MATERIAL: S.A.E. 8620 STEEL
HARDNESS: 58 - 62 Rc TO A DEPTH OF 0.5 - 0.7 mm
AFTER GRINDING
NOTE: IDENTIFY WITH NAAMS CODE NUMBER AS
SHOWN **XXX**.

PINS WITH TIN CODES SHALL HAVE 1 TO 2 MICRONS
OF TITANIUM NITRIDE ADDED TO SURFACES
B, C, D AND E (MINIMUM SURFACES). COATING
PROCESS SHALL NOT NEGATIVELY IMPACT PIN
HARDNESS.
SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART



A
E
G
H

B
D
C
F

TABULATED INFORMATION ON FOLLOWING PAGE

RESPOT PIN

FOR 6 x 12 THRU 19 x 25 mm TM

SLOTTED HOLES(FULL METRIC)

GLOBAL STANDARD COMPONENTS



Assembly

02/12/14

6 x 12 Slotted Hole
 B Rad = 1.0
 C Rad = 18.0
 D = 7.09
 E = 5.72

NAAMS CODE	TiN CODE	A	L	WT. kg
ARE061M	ARE061MT	15.0	52.9	0.05
ARE062M	ARE062MT	20.0	57.9	0.05
ARE063M	ARE063MT	30.0	67.9	0.05
ARE064M	ARE064MT	40.0	77.9	0.06
ARE065M	ARE065MT	50.0	87.9	0.06
ARE066M	ARE066MT	60.0	97.9	0.06

8 x 14 Slotted Hole
 B Rad = 1.0
 C Rad = 24.0
 D = 8.81
 E = 7.72

NAAMS CODE	TiN CODE	A	L	WT. kg
ARE081M	ARE081MT	15.0	56.0	0.05
ARE082M	ARE082MT	20.0	61.0	0.06
ARE083M	ARE083MT	30.0	71.0	0.06
ARE084M	ARE084MT	40.0	81.0	0.07
ARE085M	ARE085MT	50.0	91.0	0.07
ARE086M	ARE086MT	60.0	101.0	0.08
ARE087M	ARE087MT	70.0	111.0	0.08
ARE088M	ARE088MT	80.0	121.0	0.08

10 x 16 Slotted Hole
 B Rad = 2.0
 C Rad = 30.0
 D = 10.63
 E = 9.72

NAAMS CODE	TiN CODE	A	L	WT. kg
ARE101M	ARE101MT	15.0	58.2	0.06
ARE102M	ARE102MT	20.0	63.2	0.06
ARE103M	ARE103MT	30.0	73.2	0.07
ARE104M	ARE104MT	40.0	83.2	0.08
ARE105M	ARE105MT	50.0	93.2	0.08
ARE106M	ARE106MT	60.0	103.2	0.09
ARE107M	ARE107MT	70.0	113.2	0.10
ARE108M	ARE108MT	80.0	123.2	0.10
ARE109M	ARE109MT	90.0	133.2	0.11
ARE100M	ARE100MT	100.0	143.2	0.12

12 x 18 Slotted Hole
 B Rad = 2.0
 C Rad = 36.0
 D = 12.50
 E = 11.72

NAAMS CODE	TiN CODE	A	L	WT. kg
ARE121M	ARE121MT	15.0	62.2	0.07
ARE122M	ARE122MT	20.0	67.2	0.07
ARE123M	ARE123MT	30.0	77.2	0.08
ARE124M	ARE124MT	40.0	87.2	0.09
ARE125M	ARE125MT	50.0	97.2	0.10
ARE126M	ARE126MT	60.0	107.2	0.11
ARE127M	ARE127MT	70.0	117.2	0.12
ARE128M	ARE128MT	80.0	127.2	0.13
ARE129M	ARE129MT	90.0	137.2	0.14
ARE120M	ARE120MT	100.0	147.2	0.15

13 x 19 Slotted Hole
 B Rad = 2.0
 C Rad = 39.0
 D = 13.46
 E = 12.72

NAAMS CODE	TiN CODE	A	L	WT. kg
ARE131M	ARE131MT	15.0	63.1	0.07
ARE132M	ARE132MT	20.0	68.1	0.08
ARE133M	ARE133MT	30.0	78.1	0.09
ARE134M	ARE134MT	40.0	88.1	0.10
ARE135M	ARE135MT	50.0	98.1	0.11
ARE136M	ARE136MT	60.0	108.1	0.12
ARE137M	ARE137MT	70.0	118.1	0.13
ARE138M	ARE138MT	80.0	128.1	0.14
ARE139M	ARE139MT	90.0	138.1	0.16
ARE130M	ARE130MT	100.0	148.1	0.17

16 x 22 Slotted Hole
 B Rad = 2.0
 C Rad = 48.0
 D = 16.35
 E = 15.72

NAAMS CODE	TiN CODE	A	L	WT. kg
ARE161M	ARE161MT	15.0	68.0	0.09
ARE162M	ARE162MT	20.0	73.0	0.10
ARE163M	ARE163MT	30.0	83.0	0.11
ARE164M	ARE164MT	40.0	93.0	0.13
ARE165M	ARE165MT	50.0	103.0	0.15
ARE166M	ARE166MT	60.0	113.0	0.16
ARE167M	ARE167MT	70.0	123.0	0.18
ARE168M	ARE168MT	80.0	133.0	0.20
ARE169M	ARE169MT	90.0	143.0	0.21
ARE160M	ARE160MT	100.0	153.0	0.23

19 x 25 Slotted Hole
 B Rad = 2.0
 C Rad = 38.0
 D = 19.27
 E = 18.72

NAAMS CODE	TiN CODE	A	L	WT. kg
ARE191M	ARE191MT	15.0	67.2	0.11
ARE192M	ARE192MT	20.0	72.2	0.12
ARE193M	ARE193MT	30.0	82.2	0.14
ARE194M	ARE194MT	40.0	92.2	0.16
ARE195M	ARE195MT	50.0	102.2	0.19
ARE196M	ARE196MT	60.0	112.2	0.21
ARE197M	ARE197MT	70.0	122.2	0.23
ARE198M	ARE198MT	80.0	132.2	0.25
ARE199M	ARE199MT	90.0	142.2	0.28
ARE190M	ARE190MT	100.0	152.2	0.30

A
 B
 D
 C

LOCATING PIN RETAINERS

APR010, 011, 012, 013

GLOBAL STANDARD COMPONENTS



Assembly

04/22/14

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.020

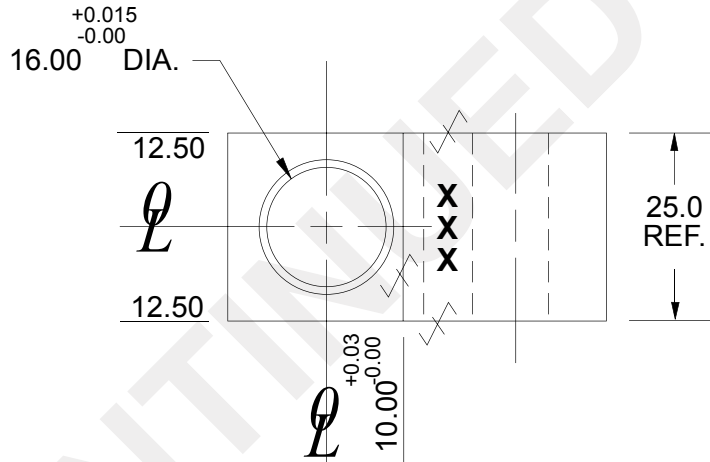
✓ SURFACES TO BE FLAT, PARALLEL &
PERPENDICULAR TO ϕ WITHIN 0.015 T.I.R.

NOTES: ALL DIMENSIONS METRIC UNLESS OTHERWISE NOTED.

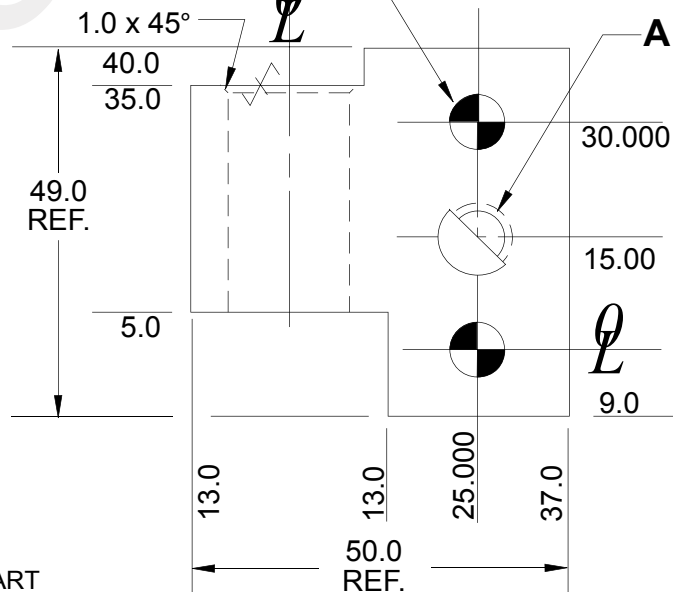
IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN XXX.

BLACK OXIDE FINISH.

NO BLACK OXIDE FINISH TO
"SS TYPE" COMPONENTS



P.F. FOR 5/16 DOWEL
(2) HOLES



SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

NAAMS CODE	A	MATERIAL	WT. kg
APR010	3/8-16 TAP	Steel / ASTM A-36	0.32
APR011	3/8-16 TAP	SS type 303 or 304	0.32
APR012	13/32	Steel / ASTM A-36	0.32
APR013	13/32	SS type 303 or 304	0.32

A

H

B

G

F

C

D

E

LOCATING PIN RETAINERS APR020, 021

GLOBAL STANDARD COMPONENTS



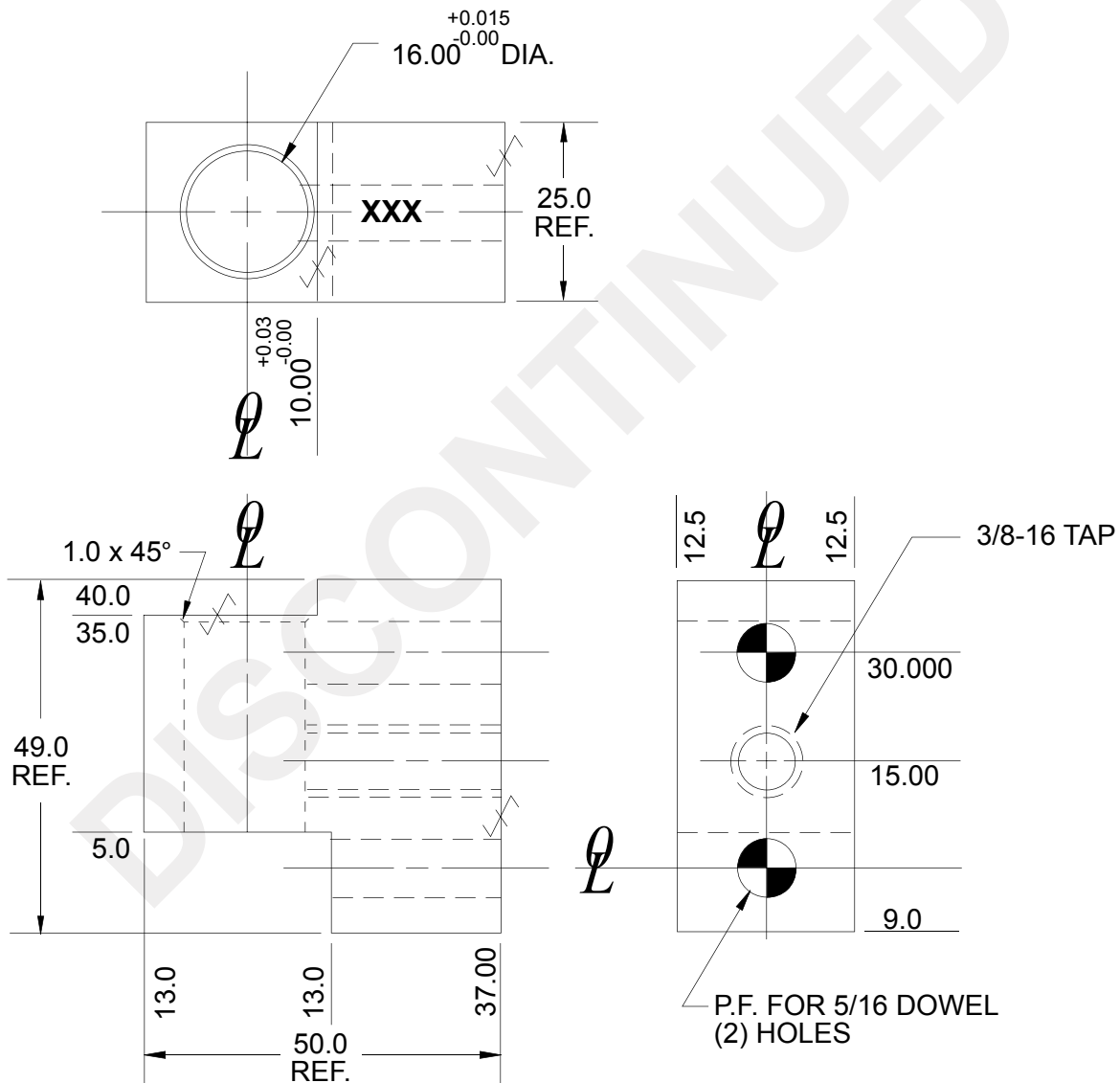
Assembly

04/22/14

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.020

✓✓ SURFACES TO BE FLAT, PARALLEL &
PERPENDICULAR TO Q WITHIN 0.015 T.I.R.

NOTES: ALL DIMENSIONS METRIC UNLESS OTHERWISE NOTED.
IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN XXX.
BLACK OXIDE FINISH.
NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS.



SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

NAAMS CODE	MATERIAL	WT. kg
APR020	Steel / ASTM A-36	0.32
APR021	SS type 303 or 304	0.32

A

G

F

E


B

C

D

LOCATING PIN RETAINERS APR030, 031, 032, 033

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.020

 SURFACES TO BE FLAT, PARALLEL & PERPENDICULAR TO Q WITHIN 0.015 T.I.R.

NOTES: ALL DIMENSIONS METRIC UNLESS OTHERWISE NOTED.

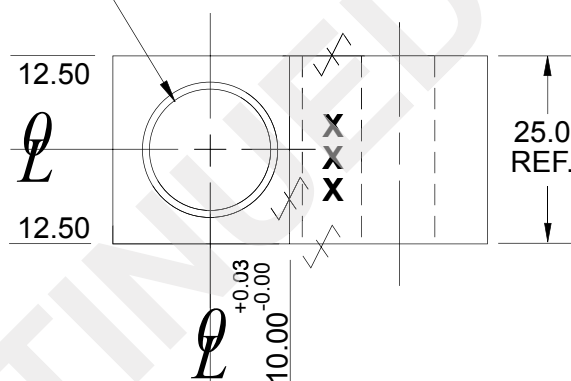
IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.

BLACK OXIDE FINISH.

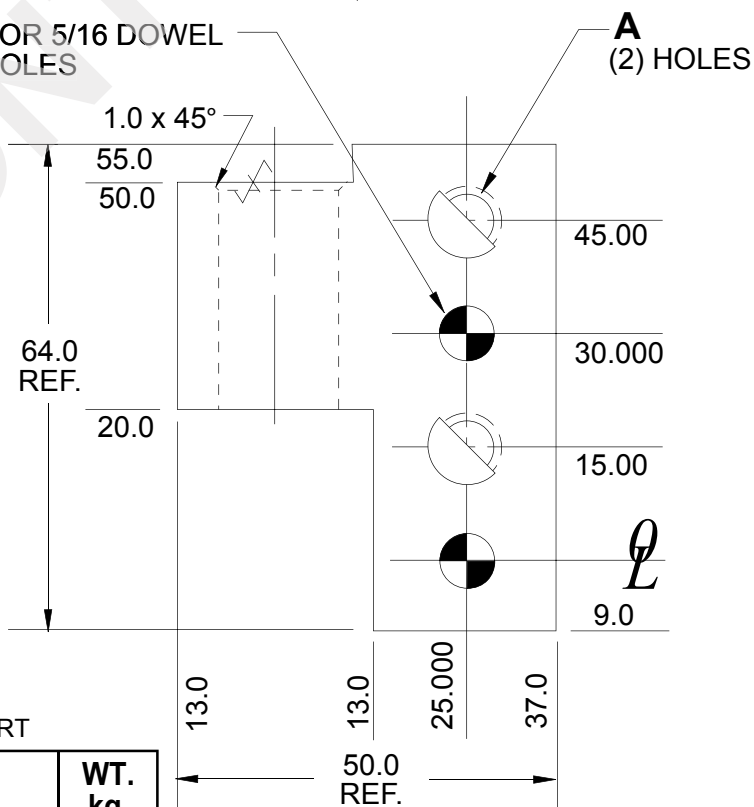
NO BLACK OXIDE FINISH

TO "SS TYPE" COMPONENTS.

$+0.015$
 -0.00
16.00 DIA.



P.F. FOR 5/16 DOWEL
(2) HOLES



SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

NAAMS CODE	A	MATERIAL	WT. kg
APR030	3/8-16 TAP	Steel / ASTM A-36	0.45
APR031	3/8-16 TAP	SS type 303 or 304	0.45
APR032	13/32	Steel / ASTM A-36	0.45
APR033	13/32	SS type 303 or 304	0.45

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LOCATING PIN RETAINERS APR040, 041

GLOBAL STANDARD COMPONENTS



Assembly

04/22/14

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.020

✓ SURFACES TO BE FLAT, PARALLEL &
PERPENDICULAR TO Q WITHIN 0.015 T.I.R.

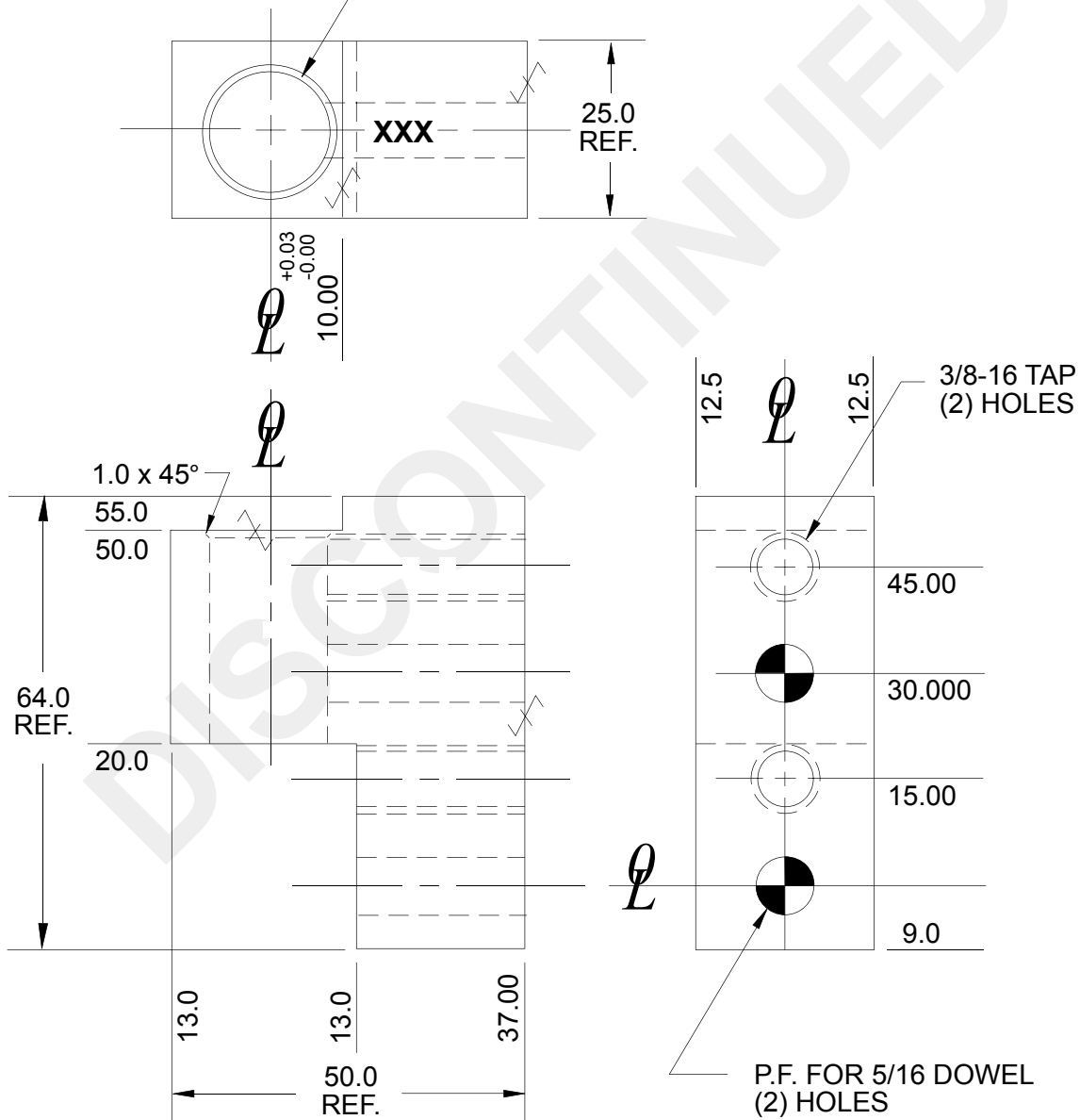
NOTE: ALL DIMENSIONS METRIC UNLESS OTHERWISE NOTED.

IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.
BLACK OXIDE FINISH.

NO BLACK OXIDE FINISH

TO "SS TYPE" COMPONENTS.

$+0.015$
 -0.00
16.00 DIA.



NAAMS CODE	MATERIAL	WT. kg
APR040	Steel / ASTM A-36	0.45
APR041	SS type 303 or 304	0.45

SEE PAGE B-1.1 FOR
GLOBAL MATERIALS CHART

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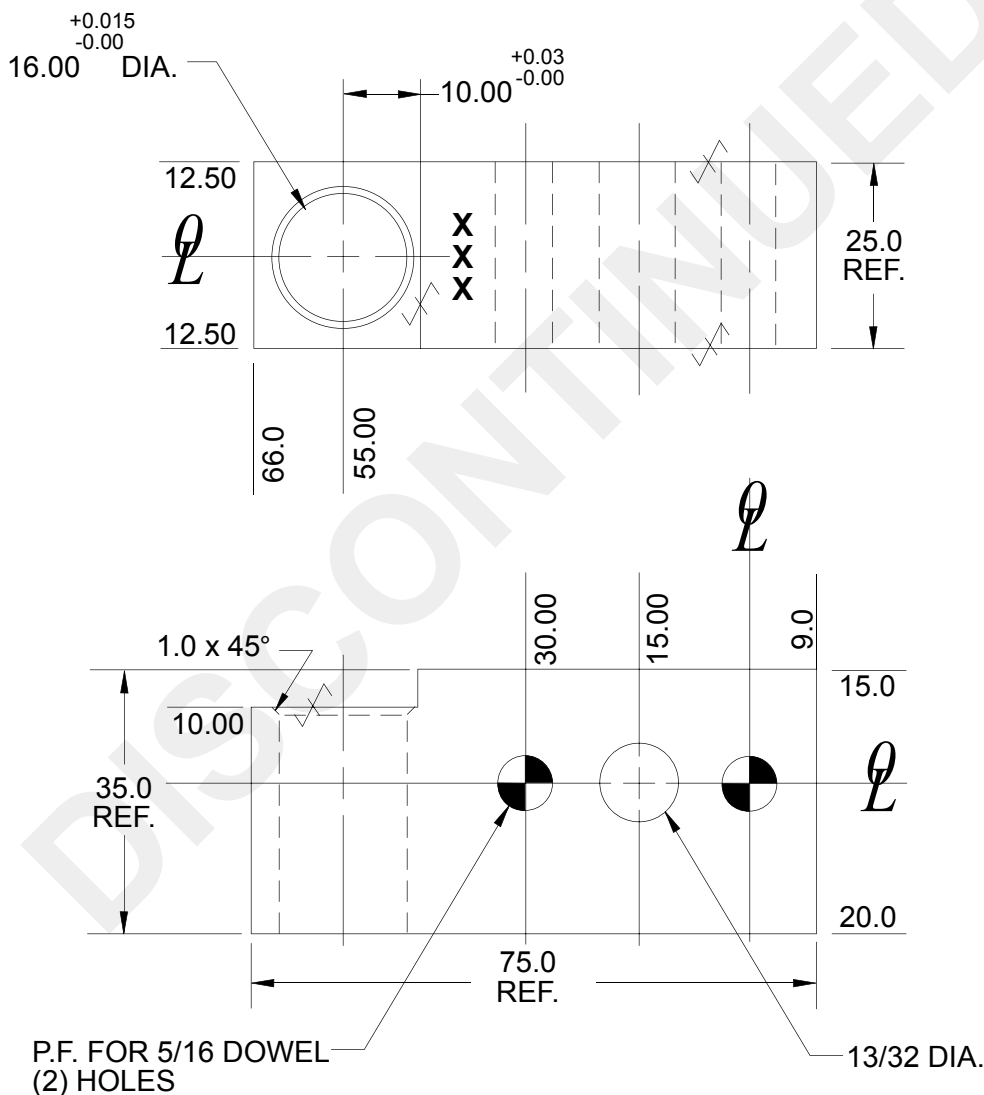
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LOCATING PIN RETAINERS APR050, 051

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.020
BETWEEN DOWELS ± 0.015

 SURFACES TO BE FLAT, PARALLEL &
PERPENDICULAR TO Q WITHIN 0.015 T.I.R.
NOTES: ALL DIMENSIONS METRIC UNLESS OTHERWISE NOTED.
IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN XXX.
BLACK OXIDE FINISH.
NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS.



SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

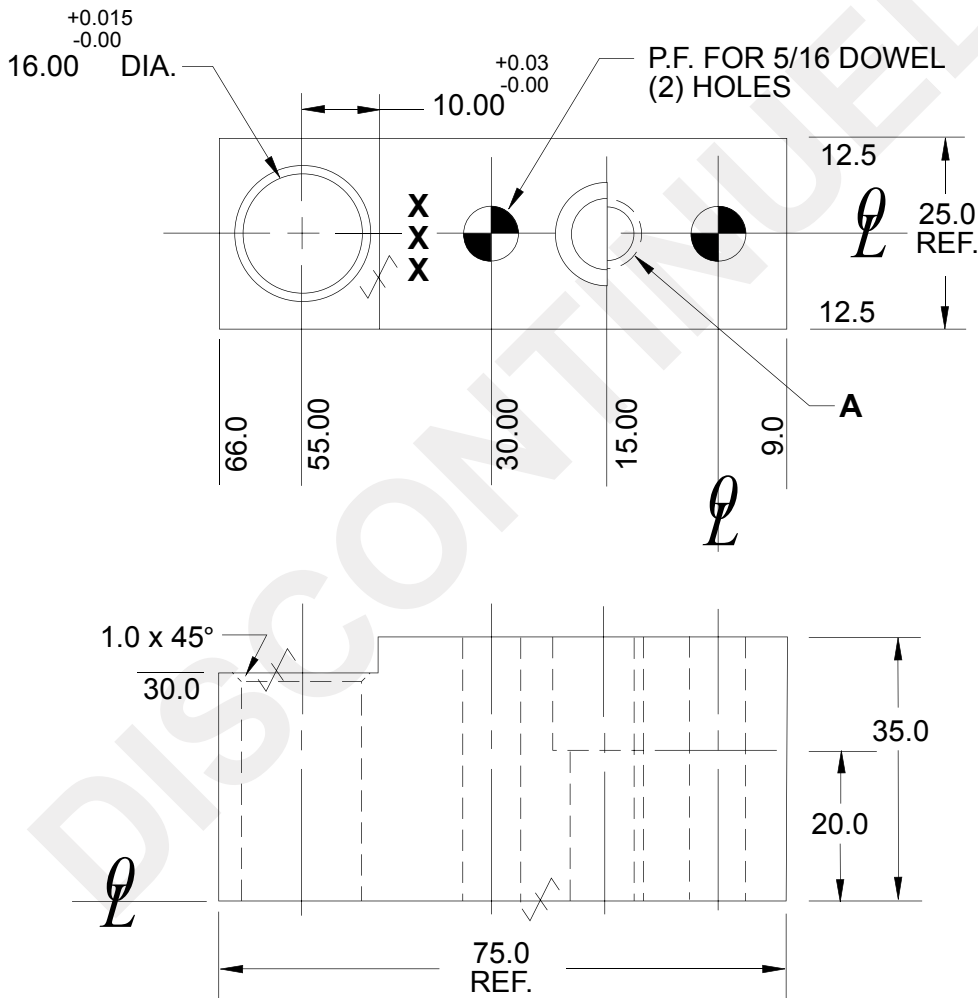
NAAMS CODE	MATERIAL	WT. kg
APR050	Steel / ASTM A-36	0.41
APR051	SS type 303 or 304	0.41

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LOCATING PIN RETAINERS APR060, 061, 062, 063

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.020
BETWEEN DOWELS ± 0.015

✓ SURFACES TO BE FLAT, PARALLEL &
PERPENDICULAR TO Q WITHIN 0.015 T.I.R.
NOTES: ALL DIMENSIONS METRIC UNLESS OTHERWISE NOTED.
IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.
BLACK OXIDE FINISH.
NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS.



SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

NAAMS CODE	A	MATERIAL	WT. kg
APR060	3/8-16 TAP	Steel / ASTM A-36	0.41
APR061	3/8-16 TAP	SS type 303 or 304	0.41
APR062	Drill & C/Bore for 3/8" SHCS	Steel / ASTM A-36	0.41
APR063	Drill & C/Bore for 3/8" SHCS	SS type 303 or 304	0.41

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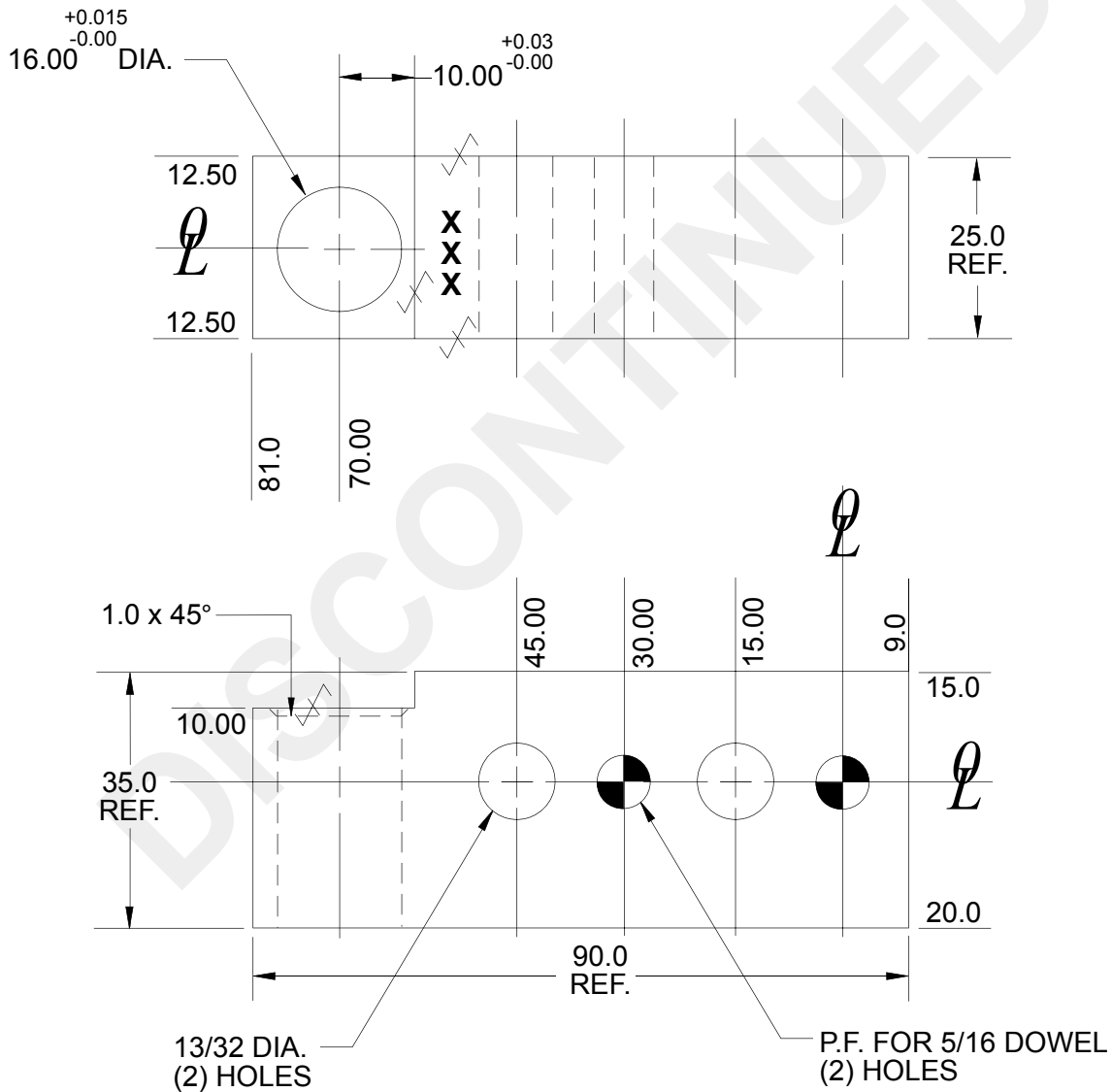
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LOCATING PIN RETAINERS APR070, 071

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.020
BETWEEN DOWELS ± 0.015

 SURFACES TO BE FLAT, PARALLEL &
PERPENDICULAR TO Q WITHIN 0.015 T.I.R.
NOTES: ALL DIMENSIONS METRIC UNLESS OTHERWISE NOTED.
IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN XXX.
BLACK OXIDE FINISH.
NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS.



SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

NAAMS CODE	MATERIAL	WT. kg
APR070	Steel / ASTM A-36	0.45
APR071	SS type 303 or 304	0.45

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LOCATING PIN 6mm THRU 19mm DIAMETER

GLOBAL STANDARD COMPONENTS



Assembly

02/12/14

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.015

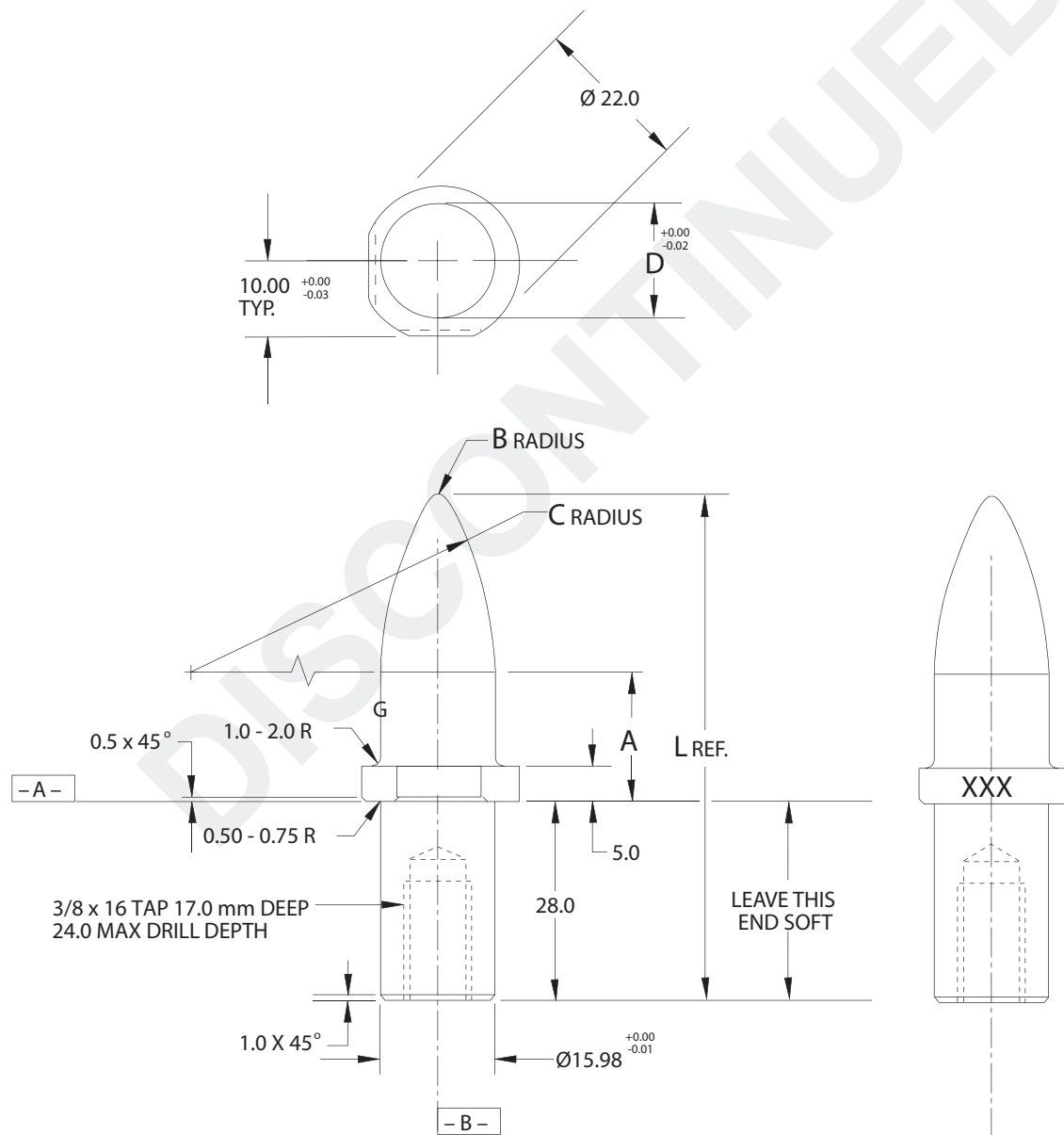
ALL MACHINED SURFACES TO FLAT.
PARALLEL AND PERPENDICULAR TO WITHIN
0.015 T.I.R. TO DATUMS A AND B AND
CONCENTRIC TO WITHIN 0.03 T.I.R.

MATERIAL: S.A.E. 8620 STEEL

HARDNESS: 58 - 62 Rc TO A DEPTH OF 0.5 - 0.7 mm
AFTER GRINDING

NOTE: IDENTIFY WITH NAAMS CODE NUMBER AS
SHOWN **XXX**.

SEE PAGE B-1.1 FOR
GLOBAL MATERIALS CHART



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TABULATED INFORMATION ON FOLLOWING PAGE

LOCATING PIN

6 mm THRU 19 mm DIAMETER

A

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B

6 mm Round Hole
 B Rad = 1.0
 C Rad = 18.0
 D = 5.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APS061	APS061T	15.0	51.8	0.05
APS062	APS062T	20.0	56.8	0.05
APS063	APS063T	30.0	66.8	0.05
APS064	APS064T	40.0	76.8	0.05
APS065	APS065T	50.0	86.8	0.06
APS066	APS066T	60.0	96.8	0.06

8 mm Round Hole
 B Rad = 1.0
 C Rad = 24.0
 D = 7.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APS081	APS081T	15.0	55.1	0.05
APS082	APS082T	20.0	60.1	0.05
APS083	APS083T	30.0	70.1	0.06
APS084	APS084T	40.0	80.1	0.06
APS085	APS085T	50.0	90.1	0.06
APS086	APS086T	60.0	100.1	0.07
APS087	APS087T	70.0	110.1	0.07
APS088	APS088T	80.0	120.1	0.08

10 mm Round Hole
 B Rad = 2.0
 C Rad = 30.0
 D = 9.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APS101	APS101T	15.0	57.4	0.06
APS102	APS102T	20.0	62.4	0.06
APS103	APS103T	30.0	72.4	0.07
APS104	APS104T	40.0	82.4	0.07
APS105	APS105T	50.0	92.4	0.08
APS106	APS106T	60.0	102.4	0.08
APS107	APS107T	70.0	112.4	0.09
APS108	APS108T	80.0	122.4	0.10
APS109	APS109T	90.0	132.4	0.10
APS100	APS100T	100.0	142.4	0.11

13 mm Round Hole
 B Rad = 2.0
 C Rad = 39.0
 D = 12.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APS131	APS131T	15.0	62.4	0.07
APS132	APS132T	20.0	67.4	0.07
APS133	APS133T	30.0	77.4	0.08
APS134	APS134T	40.0	87.4	0.09
APS135	APS135T	50.0	97.4	0.10
APS136	APS136T	60.0	107.4	0.11
APS137	APS137T	70.0	117.4	0.12
APS138	APS138T	80.0	127.4	0.13
APS139	APS139T	90.0	137.4	0.14
APS130	APS130T	100.0	147.4	0.15

16 mm Round Hole
 B Rad = 2.0
 C Rad = 48.0
 D = 15.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APS161	APS161T	15.0	67.5	0.09
APS162	APS162T	20.0	72.5	0.09
APS163	APS163T	30.0	82.5	0.11
APS164	APS164T	40.0	92.5	0.13
APS165	APS165T	50.0	102.5	0.14
APS166	APS166T	60.0	112.5	0.16
APS167	APS167T	70.0	122.5	0.17
APS168	APS168T	80.0	132.5	0.19
APS169	APS169T	90.0	142.5	0.20
APS160	APS160T	100.0	152.5	0.22

19 mm Round Hole
 B Rad = 2.0
 C Rad = 38.0
 D = 18.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APS191	APS191T	15.0	66.8	0.10
APS192	APS192T	20.0	71.8	0.12
APS193	APS193T	30.0	81.8	0.14
APS194	APS194T	40.0	91.8	0.16
APS195	APS195T	50.0	101.8	0.18
APS196	APS196T	60.0	111.8	0.20
APS197	APS197T	70.0	121.8	0.22
APS198	APS198T	80.0	131.8	0.24
APS199	APS199T	90.0	141.8	0.27
APS190	APS190T	100.0	151.8	0.29

LOCATING PIN 25mm DIAMETER

GLOBAL STANDARD COMPONENTS

TM **NAAMS**



Assembly

02/12/14

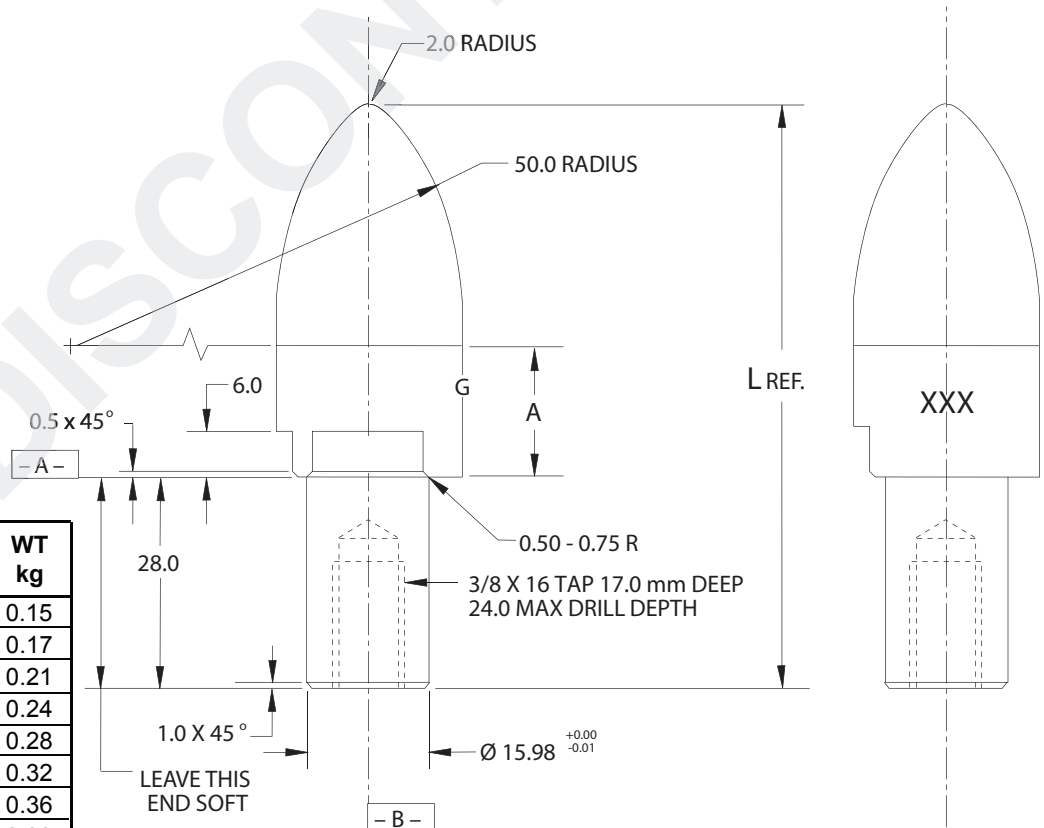
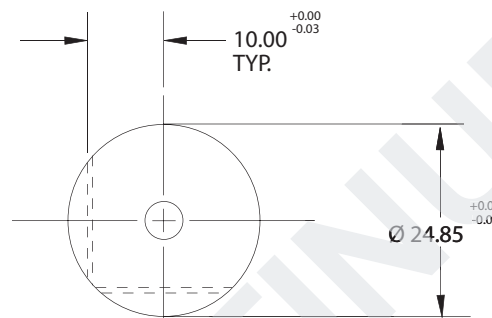
Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.015

ALL MACHINED SURFACES TO FLAT.
PARALLEL AND PERPENDICULAR TO WITHIN
0.015 T.I.R. TO DATUMS A AND B AND
CONCENTRIC TO WITHIN 0.03 T.I.R.

MATERIAL: S.A.E. 8620 STEEL
HARDNESS: 58 - 62 Rc TO A DEPTH OF 0.5 - 0.7 mm
AFTER GRINDING

NOTE: IDENTIFY WITH NAAMS CODE NUMBER AS
SHOWN **XXX**.

SEE PAGE B-1.1 FOR
GLOBAL MATERIALS CHA0RT



NAAMS CODE	A	L	WT kg
APS251	15.0	74.8	0.15
APS252	20.0	79.8	0.17
APS253	30.0	89.8	0.21
APS254	40.0	99.8	0.24
APS255	50.0	109.8	0.28
APS256	60.0	119.8	0.32
APS257	70.0	129.8	0.36
APS258	80.0	139.8	0.39
APS259	90.0	149.8	0.43
APS250	100.0	159.8	0.47

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LOCATING PIN FOR 6 x 12 THRU 19 x 25 mm SLOTTED HOLES

GLOBAL STANDARD COMPONENTS

NAAMS



Assembly

02/12/14

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.015

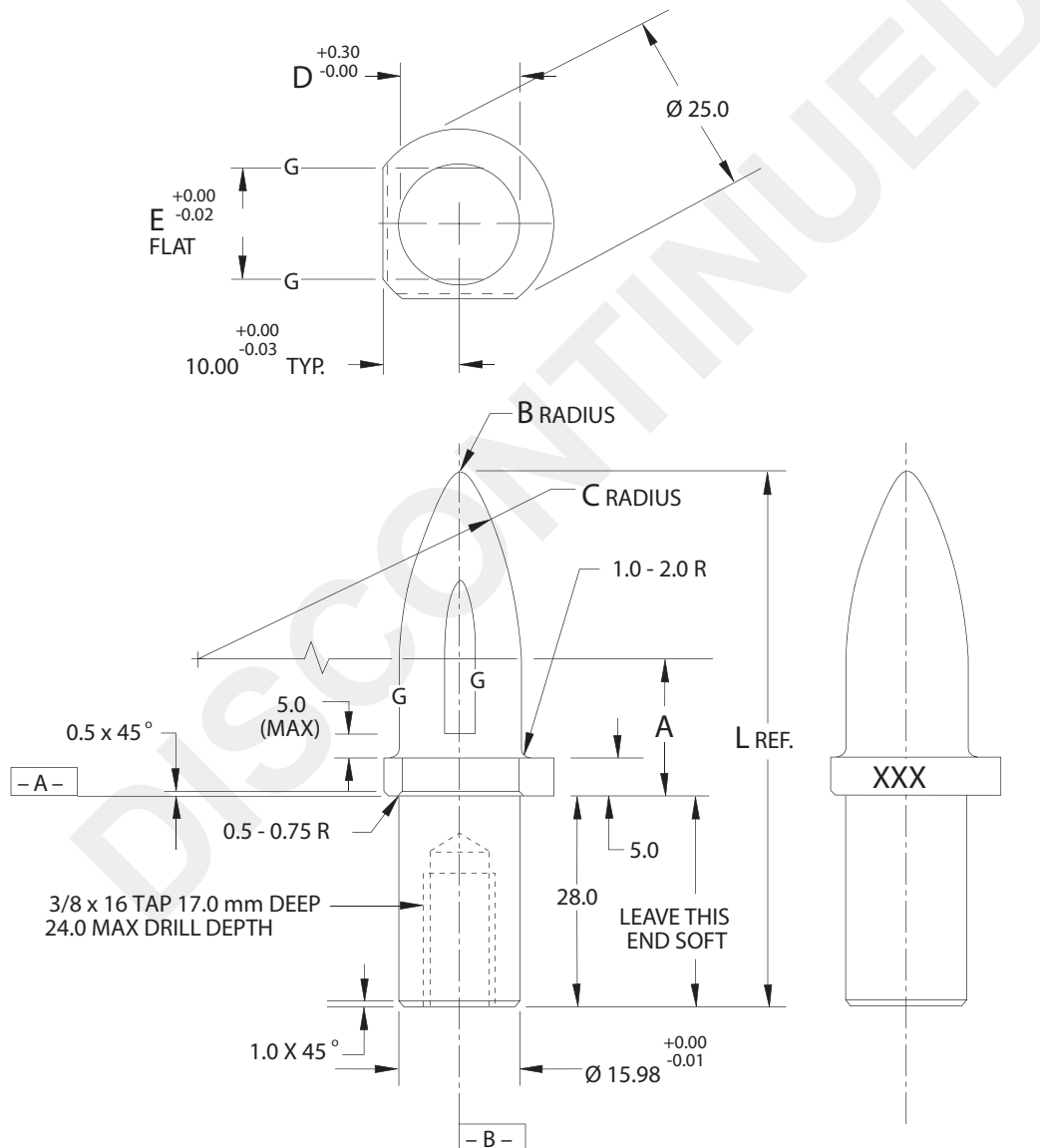
ALL MACHINED SURFACES TO FLAT.
PARALLEL AND PERPENDICULAR TO WITHIN
0.015 T.I.R. TO DATUMS A AND B AND
CONCENTRIC TO WITHIN 0.03 T.I.R.

MATERIAL: S.A.E. 8620 STEEL

HARDNESS: 58 - 62 Rc TO A DEPTH OF 0.5 - 0.7 mm
AFTER GRINDING

NOTE: IDENTIFY WITH NAAMS CODE NUMBER AS
SHOWN **XXX**.

SEE PAGE B-1.1 FOR
GLOBAL MATERIALS CHART



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TABULATED INFORMATION ON FOLLOWING PAGE

LOCATING PIN FOR 6 x 12 THRU 19 x 25 mm SLOTTED HOLES

GLOBAL STANDARD COMPONENTS



Assembly

04/22/14

6 x 12 Slotted Hole
B Rad = 1.0
C Rad = 18.0
D = 7.09
E = 5.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APE061	APE061T	15.0	52.9	0.05
APE062	APE062T	20.0	57.9	0.05
APE063	APE063T	30.0	67.9	0.05
APE064	APE064T	40.0	77.9	0.06
APE065	APE065T	50.0	87.9	0.06
APE066	APE066T	60.0	97.9	0.06

8 x 14 Slotted Hole
B Rad = 1.0
C Rad = 24.0
D = 8.81
E = 7.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APE081	APE081T	15.0	56.0	0.05
APE082	APE082T	20.0	61.0	0.06
APE083	APE083T	30.0	71.0	0.06
APE084	APE084T	40.0	81.0	0.07
APE085	APE085T	50.0	91.0	0.07
APE086	APE086T	60.0	101.0	0.08
APE087	APE087T	70.0	111.0	0.08
APE088	APE088T	80.0	121.0	0.08

10 x 16 Slotted Hole
B Rad = 2.0
C Rad = 30.0
D = 10.63
E = 9.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APE101	APE101T	15.0	58.2	0.06
APE102	APE102T	20.0	63.2	0.06
APE103	APE103T	30.0	73.2	0.07
APE104	APE104T	40.0	83.2	0.08
APE105	APE105T	50.0	93.2	0.08
APE106	APE106T	60.0	103.2	0.09
APE107	APE107T	70.0	113.2	0.10
APE108	APE108T	80.0	123.2	0.10
APE109	APE109T	90.0	133.2	0.11
APE100	APE100T	100.0	143.2	0.12

A
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D

C

13 x 19 Slotted Hole
B Rad = 2.0
C Rad = 39.0
D = 13.46
E = 12.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APE131	APE131T	15.0	63.1	0.07
APE132	APE132T	20.0	68.1	0.08
APE133	APE133T	30.0	78.1	0.09
APE134	APE134T	40.0	88.1	0.10
APE135	APE135T	50.0	98.1	0.11
APE136	APE136T	60.0	108.1	0.12
APE137	APE137T	70.0	118.1	0.13
APE138	APE138T	80.0	128.1	0.14
APE139	APE139T	90.0	138.1	0.16
APE130	APE130T	100.0	148.1	0.17

16 x 22 Slotted Hole
B Rad = 2.0
C Rad = 48.0
D = 16.35
E = 15.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APE161	APE161T	15.0	68.0	0.09
APE162	APE162T	20.0	73.0	0.10
APE163	APE163T	30.0	83.0	0.11
APE164	APE164T	40.0	93.0	0.13
APE165	APE165T	50.0	103.0	0.15
APE166	APE166T	60.0	113.0	0.16
APE167	APE167T	70.0	123.0	0.18
APE168	APE168T	80.0	133.0	0.20
APE169	APE169T	90.0	143.0	0.21
APE160	APE160T	100.0	153.0	0.23

19 x 25 Slotted Hole
B Rad = 2.0
C Rad = 38.0
D = 19.27
E = 18.85

NAAMS CODE	TiN CODE	A	L	WT. kg
APE191	APE191T	15.0	67.2	0.11
APE192	APE192T	20.0	72.2	0.12
APE193	APE193T	30.0	82.2	0.14
APE194	APE194T	40.0	92.2	0.16
APE195	APE195T	50.0	102.2	0.19
APE196	APE196T	60.0	112.2	0.21
APE197	APE197T	70.0	122.2	0.23
APE198	APE198T	80.0	132.2	0.25
APE199	APE199T	90.0	142.2	0.28
APE190	APE190T	100.0	152.2	0.30

LOCATING PIN FOR 25 x 31 mm SLOTTED HOLES

GLOBAL STANDARD COMPONENTS



Assembly

02/12/14

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.015

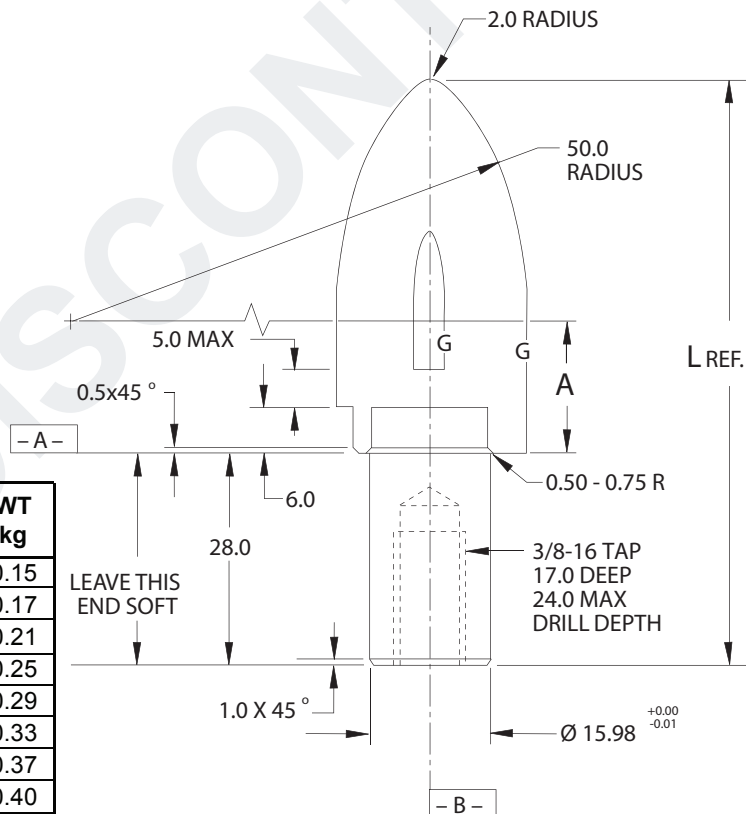
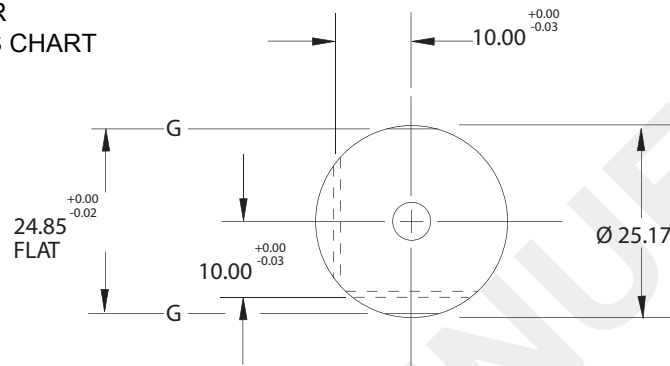
ALL MACHINED SURFACES TO FLAT.
PARALLEL AND PERPENDICULAR TO WITHIN
0.015 T.I.R. TO DATUMS A AND B AND
CONCENTRIC TO WITHIN 0.03 T.I.R.

MATERIAL: S.A.E. 8620 STEEL

HARDNESS: 58 - 62 Rc TO A DEPTH OF 0.5 - 0.7 mm
AFTER GRINDING

NOTE: IDENTIFY WITH NAAMS CODE NUMBER AS
SHOWN XXX.

SEE PAGE B-1.1 FOR
GLOBAL MATERIALS CHART



NAAMS CODE	A	L	WT kg
APE251	15.0	75.1	0.15
APE252	20.0	80.1	0.17
APE253	30.0	90.1	0.21
APE254	40.0	100.1	0.25
APE255	50.0	110.1	0.29
APE256	60.0	120.1	0.33
APE257	70.0	130.1	0.37
APE258	80.0	140.1	0.40
APE259	90.0	150.1	0.44
APE250	100.0	160.1	0.48

LEAVE THIS END SOFT

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RESPOT PIN 25mm DIAMETER (FULL METRIC)

GLOBAL STANDARD COMPONENTS



Assembly

04/30/15

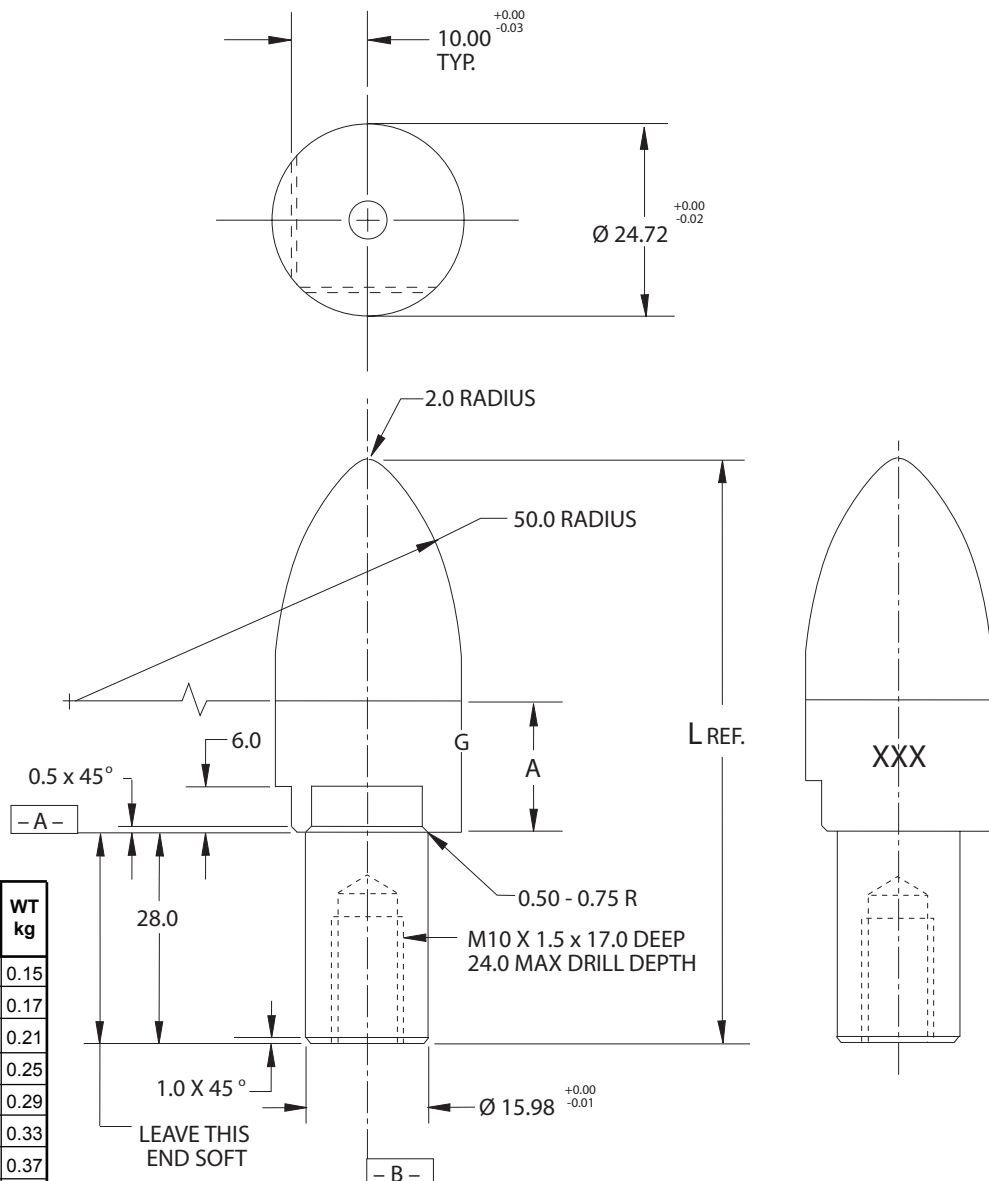
Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.015

ALL MACHINED SURFACES TO FLAT.
PARALLEL AND PERPENDICULAR TO WITHIN
0.015 T.I.R. TO DATUMS A AND B AND
CONCENTRIC TO WITHIN 0.03 T.I.R.

MATERIAL: S.A.E. 8620 STEEL
HARDNESS: 58 - 62 Rc TO A DEPTH OF 0.5 - 0.7 mm
AFTER GRINDING

NOTE: IDENTIFY WITH NAAMS CODE NUMBER AS
SHOWN XXX.

PINS WITH TiN CODES SHALL HAVE 1 TO 2 MICRONS
OF TITANIUM NITRIDE ADDED TO ALL SURFACES
ABOVE THE -A- DATUM (MINIMUM SURFACES).
COATING PROCESS SHALL NOT NEGATIVELY
IMPACT PIN HARDNESS.
SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART



NAAMS CODE	TiN CODE	A	L	WT kg
ARP251M	ARP251MT	15.0	74.8	0.15
ARP252M	ARP252MT	20.0	79.8	0.17
ARP253M	ARP253MT	30.0	89.8	0.21
ARP254M	ARP254MT	40.0	99.8	0.25
ARP255M	ARP255MT	50.0	109.8	0.29
ARP256M	ARP256MT	60.0	119.8	0.33
ARP257M	ARP257MT	70.0	129.8	0.37
ARP258M	ARP258MT	80.0	139.8	0.40
ARP259M	ARP259MT	90.0	149.8	0.44
ARP250M	ARP250MT	100.0	159.8	0.48

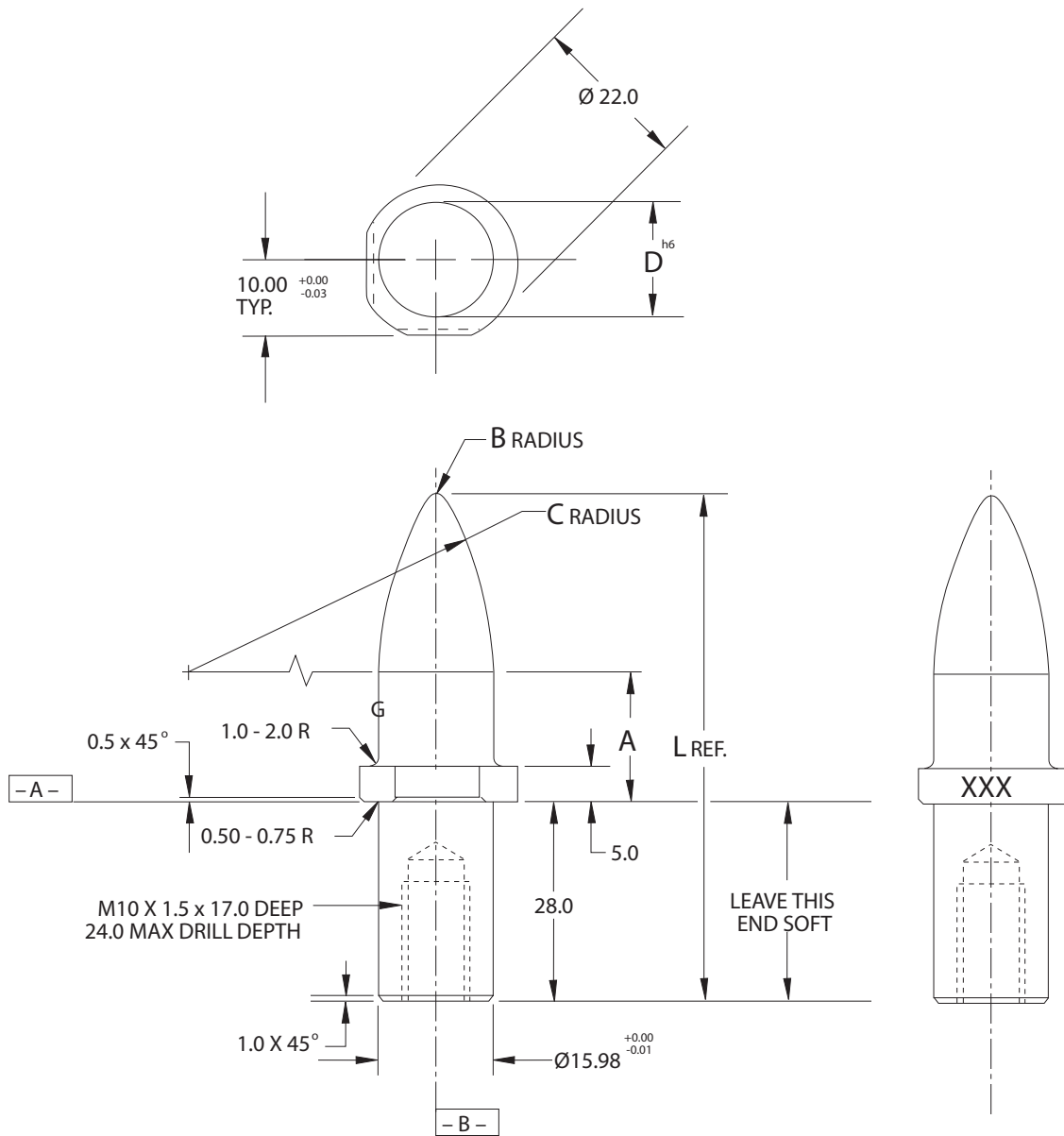
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LOCATING PIN 8mm THRU 20mm DIAMETER (FULL METRIC)

Tolerances: 1 PLACE ± 0.3
 2 PLACE ± 0.03
 3 PLACE ± 0.015
 ALL MACHINED SURFACES TO FLAT.
 PARALLEL AND PERPENDICULAR TO WITHIN
 0.015 T.I.R. TO DATUMS A AND B AND
 CONCENTRIC TO WITHIN 0.03 T.I.R.
 MATERIAL: S.A.E. 8620 STEEL
 HARDNESS: 58 - 62 Rc TO A DEPTH OF 0.5 - 0.7 mm
 AFTER GRINDING
 NOTE: IDENTIFY WITH NAAMS CODE NUMBER AS
 SHOWN **XXX**.

PINS WITH TIN CODES SHALL HAVE 1 TO 2 MICRONS
 OF TITANIUM NITRIDE ADDED TO SURFACES
 B, C AND D (MINIMUM SURFACES). COATING
 PROCESS SHALL NOT NEGATIVELY IMPACT PIN
 HARDNESS.
 SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

A
 C
 D



B

TABULATED INFORMATION ON FOLLOWING PAGE

LOCATING PIN

8 mm THRU 20 mm DIAMETER
(FULL METRIC)

GLOBAL STANDARD COMPONENTS



Assembly

02/12/14

8 mm Round Hole
B Rad = 1.0
C Rad = 24.0
D = 8^{h6}

10 mm Round Hole
B Rad = 1.0
C Rad = 30.0
D = 10^{h6}

13 mm Round Hole
B Rad = 2.0
C Rad = 30.0
D = 13^{h6}

NAAMS CODE	TiN CODE	A	L	WT. kg
APQ081	APQ081T	15.0	55.4	0.05
APQ082	APQ082T	20.0	60.4	0.05
APQ083	APQ083T	30.0	70.4	0.06
APQ084	APQ084T	40.0	80.4	0.06
APQ085	APQ085T	50.0	90.4	0.07
APQ086	APQ086T	60.0	100.4	0.07

NAAMS CODE	TiN CODE	A	L	WT. kg
APQ101	APQ101T	15.0	58.7	0.06
APQ102	APQ102T	20.0	63.7	0.06
APQ103	APQ103T	30.0	73.7	0.07
APQ104	APQ104T	40.0	83.7	0.07
APQ105	APQ105T	50.0	93.7	0.08
APQ106	APQ106T	60.0	103.7	0.09
APQ107	APQ107T	70.0	113.7	0.09
APQ108	APQ108T	80.0	123.7	0.10

NAAMS CODE	TiN CODE	A	L	WT. kg
APQ131	APQ131T	15.0	60.2	0.07
APQ132	APQ132T	20.0	65.2	0.07
APQ133	APQ133T	30.0	75.2	0.08
APQ134	APQ134T	40.0	85.2	0.09
APQ135	APQ135T	50.0	95.2	0.10
APQ136	APQ136T	60.0	105.2	0.12
APQ137	APQ137T	70.0	115.2	0.13
APQ138	APQ138T	80.0	125.2	0.14

16 mm Round Hole
B Rad = 2.0
C Rad = 48.0
D = 16^{h6}

18 mm Round Hole
B Rad = 2.0
C Rad = 38.0
D = 18^{h6}

20 mm Round Hole
B Rad = 2.0
C Rad = 38.0
D = 20^{h6}

NAAMS CODE	TiN CODE	A	L	WT. kg
APQ161	APQ161T	15.0	67.7	0.08
APQ162	APQ162T	20.0	72.7	0.09
APQ163	APQ163T	30.0	82.7	0.11
APQ164	APQ164T	40.0	92.7	0.12
APQ165	APQ165T	50.0	102.7	0.14
APQ166	APQ166T	60.0	112.7	0.15
APQ167	APQ167T	70.0	122.7	0.17
APQ168	APQ168T	80.0	132.7	0.19

NAAMS CODE	TiN CODE	A	L	WT. kg
APQ181	APQ181T	15.0	66.3	0.10
APQ182	APQ182T	20.0	71.3	0.11
APQ183	APQ183T	30.0	81.3	0.13
APQ184	APQ184T	40.0	91.3	0.15
APQ185	APQ185T	50.0	101.3	0.17
APQ186	APQ186T	60.0	111.3	0.19
APQ187	APQ187T	70.0	121.3	0.21
APQ188	APQ188T	80.0	131.3	0.23

NAAMS CODE	TiN CODE	A	L	WT. kg
APQ201	APQ201T	15.0	67.6	0.11
APQ202	APQ202T	20.0	72.6	0.13
APQ203	APQ203T	30.0	82.6	0.15
APQ204	APQ204T	40.0	92.6	0.17
APQ205	APQ205T	50.0	102.6	0.20
APQ206	APQ206T	60.0	112.6	0.22
APQ207	APQ207T	70.0	122.6	0.25
APQ208	APQ208T	80.0	132.6	0.27

A
B
C

LOCATING PIN

25mm THRU 40mm DIAMETER

(FULL METRIC)

GLOBAL STANDARD COMPONENTS

TM **NAAMS**



Assembly

04/30/15

A

Tolerances: 1 PLACE ± 0.3
 2 PLACE ± 0.03
 3 PLACE ± 0.015

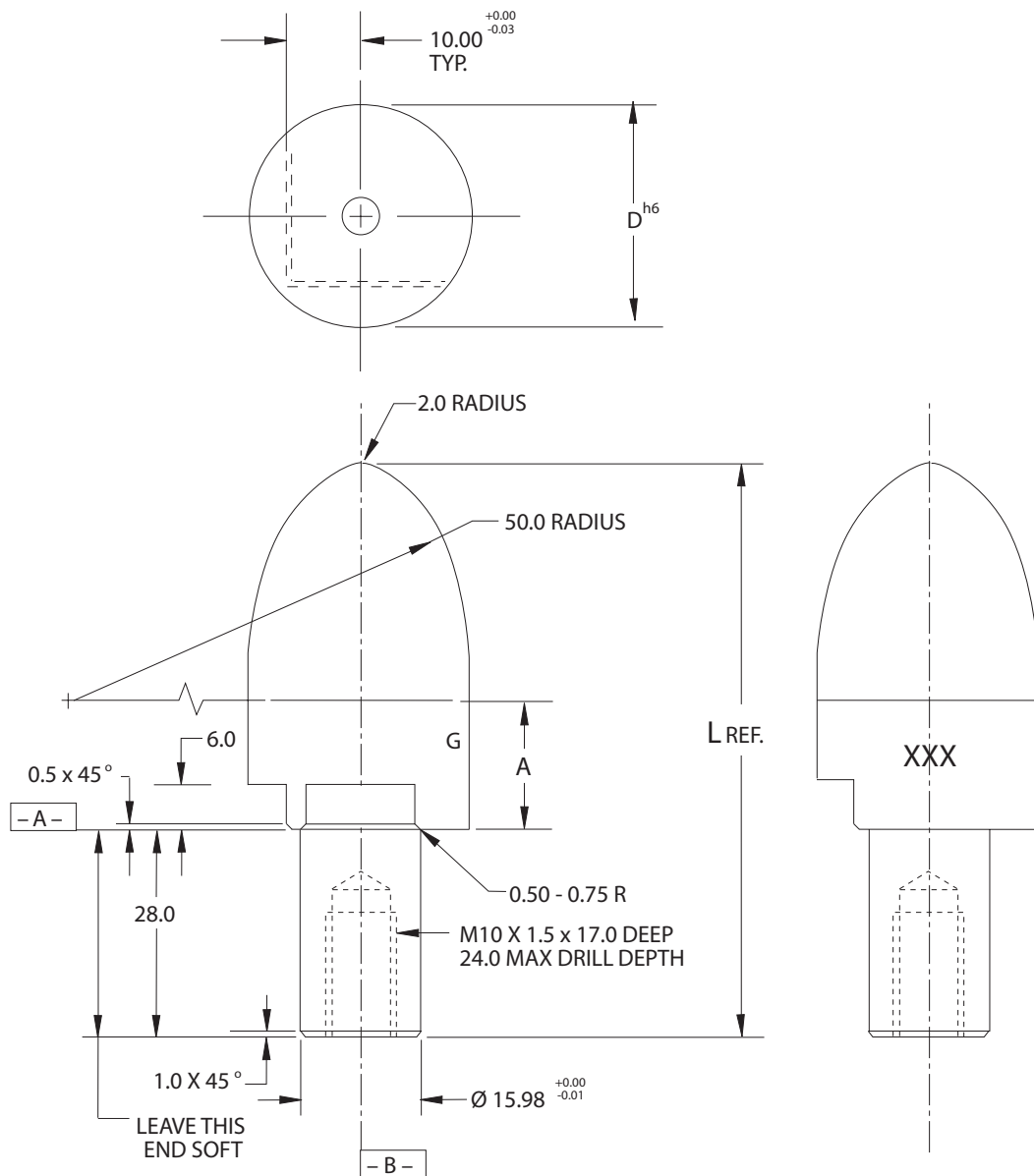
ALL MACHINED SURFACES TO FLAT.
 PARALLEL AND PERPENDICULAR TO WITHIN
 0.015 T.I.R. TO DATUMS A AND B AND
 CONCENTRIC TO WITHIN 0.03 T.I.R.

MATERIAL: S.A.E. 8620 STEEL

HARDNESS: 58 - 62 Rc TO A DEPTH OF 0.5 - 0.7 mm
 AFTER GRINDING

NOTE: IDENTIFY WITH NAAMS CODE NUMBER AS
 SHOWN **XXX**.

PINS WITH TIN CODES SHALL HAVE 1 TO 2 MICRONS
 OF TITANIUM NITRIDE ADDED TO ALL SURFACES
 ABOVE THE -A- DATUM (MINIMUM SURFACES).
 COATING PROCESS SHALL NOT NEGATIVELY
 IMPACT PIN HARDNESS.
 SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART



B
 D
 E

C

LOCATING PIN

25 mm THRU 40 mm DIAMETER TM

(FULL METRIC)

GLOBAL STANDARD COMPONENTS



Assembly

02/12/14

A
C
D
B

25 mm Round Hole
B Rad = 2.0
C Rad = 50.0
D = 25^{h6}

30 mm Round Hole
B Rad = 2.0
C Rad = 50.0
D = 30^{h6}

35 mm Round Hole
B Rad = 2.0
C Rad = 50.0
D = 35^{h6}

NAAMS CODE	TiN CODE	A	L	WT. kg
APQ251	APQ251T	15.0	75.0	0.15
APQ252	APQ252T	20.0	80.0	0.17
APQ253	APQ253T	30.0	90.0	0.21
APQ254	APQ254T	40.0	100.0	0.25
APQ255	APQ255T	50.0	110.0	0.29
APQ256	APQ256T	60.0	120.0	0.32
APQ257	APQ257T	70.0	130.0	0.36
APQ258	APQ258T	80.0	140.0	0.40

NAAMS CODE	TiN CODE	A	L	WT. kg
APQ301	APQ301T	15.0	77.8	0.22
APQ302	APQ302T	20.0	82.8	0.24
APQ303	APQ303T	30.0	92.8	0.30
APQ304	APQ304T	40.0	102.8	0.35
APQ305	APQ305T	50.0	112.8	0.41
APQ306	APQ306T	60.0	122.8	0.46
APQ307	APQ307T	70.0	132.8	0.52
APQ308	APQ308T	80.0	142.8	0.57


NAAMS CODE	TiN CODE	A	L	WT. kg
APQ351	APQ351T	15.0	80.3	0.29
APQ352	APQ352T	20.0	85.3	0.33
APQ353	APQ353T	30.0	95.3	0.41
APQ354	APQ354T	40.0	105.3	0.48
APQ355	APQ355T	50.0	115.3	0.55
APQ356	APQ356T	60.0	125.3	0.63
APQ357	APQ357T	70.0	135.3	0.70
APQ358	APQ358T	80.0	145.3	0.78

40 mm Round Hole
B Rad = 2.0
C Rad = 50.0
D = 40^{h6}

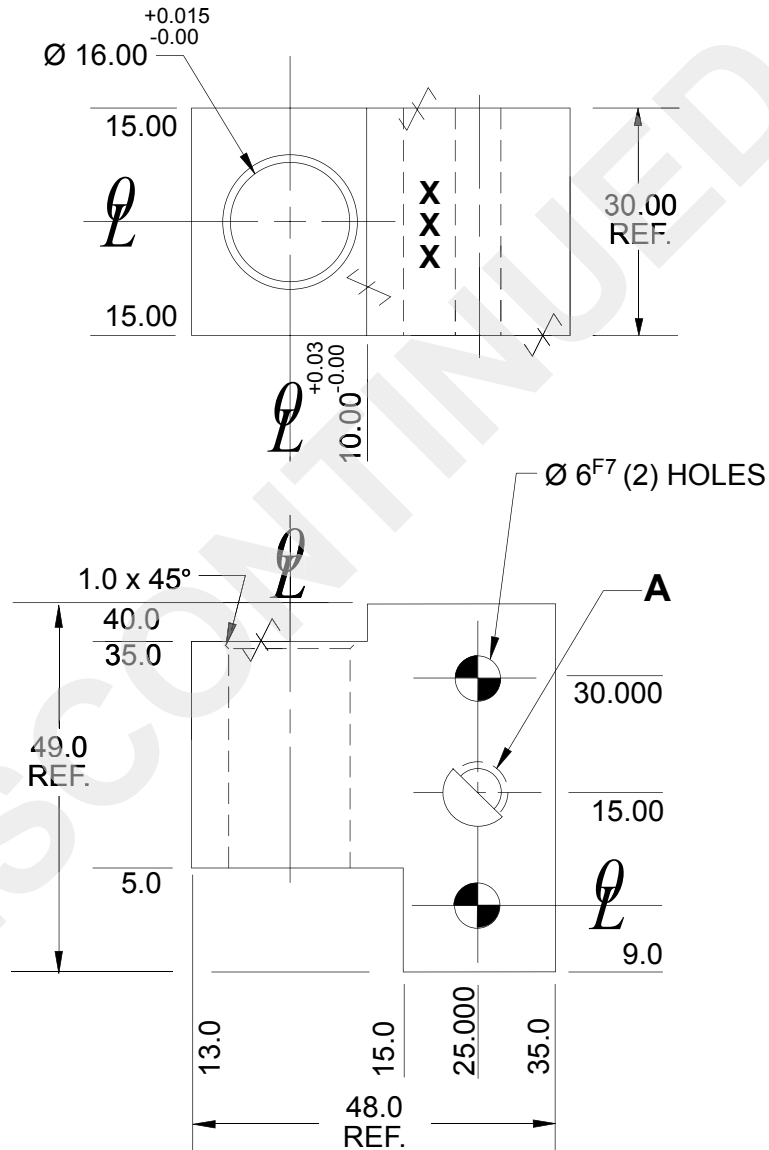
NAAMS CODE	TiN CODE	A	L	WT. kg
APQ401	APQ401T	15.0	82.5	0.39
APQ402	APQ402T	20.0	87.5	0.43
APQ403	APQ403T	30.0	97.5	0.53
APQ404	APQ404T	40.0	107.5	0.63
APQ405	APQ405T	50.0	117.5	0.73
APQ406	APQ406T	60.0	127.5	0.82
APQ407	APQ407T	70.0	137.5	0.92
APQ408	APQ408T	80.0	147.5	1.02

LOCATING PIN RETAINER (FULL METRIC) 20 mm SERIES APR310M, 311M, 312M, 313M

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.020

 SURFACES TO BE FLAT, PARALLEL & PERPENDICULAR TO Q WITHIN 0.015 T.I.R.

NOTES: IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN XXX.
BLACK OXIDE FINISH.
NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS.



NAAMS CODE	A	MATERIAL	WT. kg
APR310M	M8 x 1.25	Steel / ASTM A-36	0.41
APR311M	M8 x 1.25	SS type 303 or 304	0.41
APR312M	9.0	Steel / ASTM A-36	0.41
APR313M	9.0	SS type 303 or 304	0.41

SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

D

E


C

A

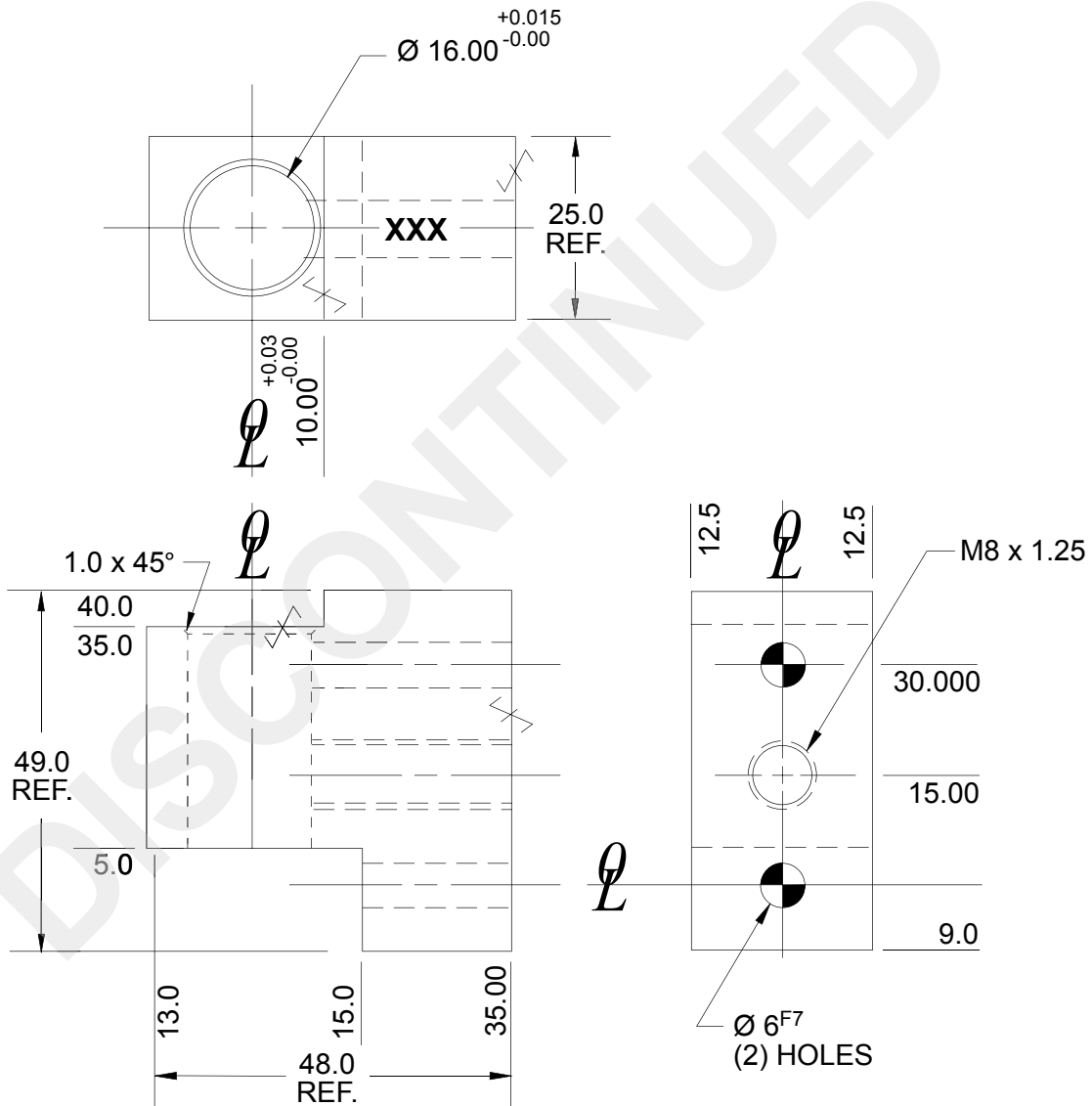
B

LOCATING PIN RETAINER (FULL METRIC) 20 mm SERIES APR320M, 321M

Tolerances: 1 PLACE ± 0.3
 2 PLACE ± 0.03
 3 PLACE ± 0.020

 SURFACES TO BE FLAT, PARALLEL &
 PERPENDICULAR TO Q WITHIN 0.015 T.I.R.

NOTES: IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.
 BLACK OXIDE FINISH.
 NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS.



SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

NAAMS CODE	MATERIAL	WT. kg
APR320M	Steel / ASTM A-36	0.41
APR321M	SS type 303 or 304	0.41


E

D

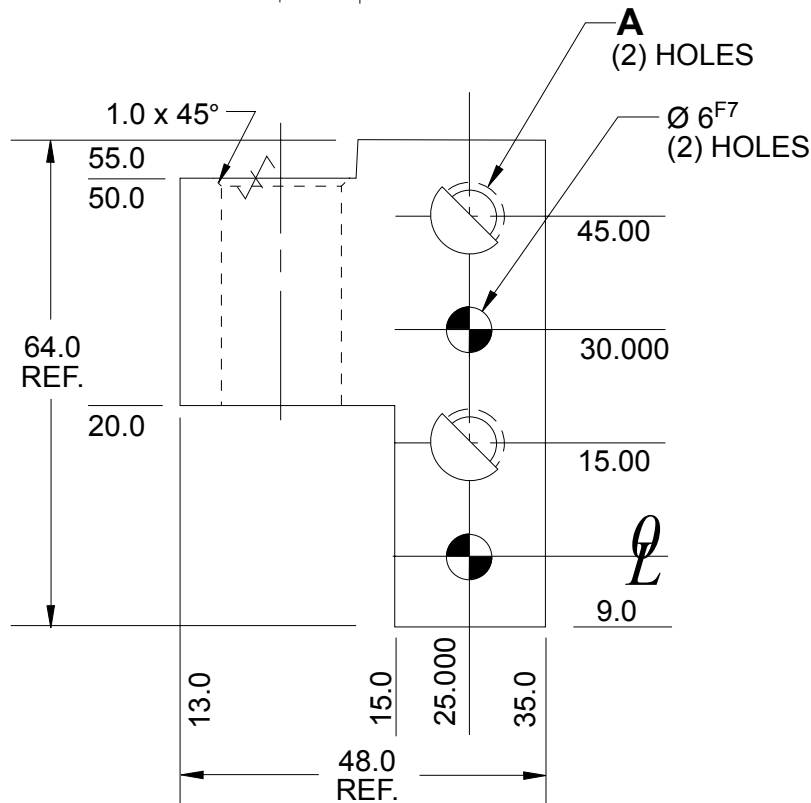
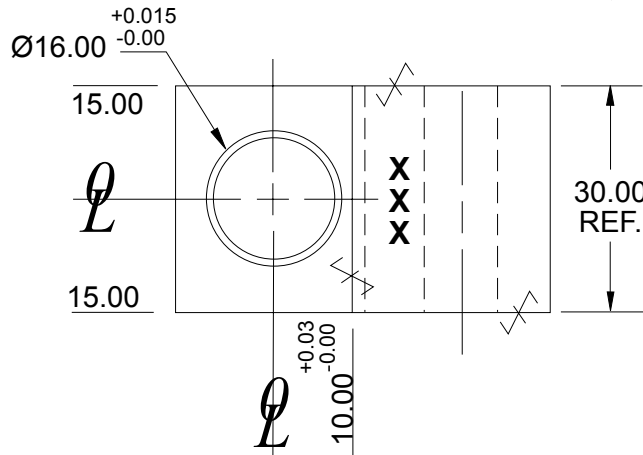
C
A
B

LOCATING PIN RETAINER (FULL METRIC) 20 mm SERIES APR330M, 331M, 332M, 333M

Tolerances: 1 PLACE ± 0.3
 2 PLACE ± 0.03
 3 PLACE ± 0.020

 SURFACES TO BE FLAT, PARALLEL & PERPENDICULAR TO Q WITHIN 0.015 T.I.R.

NOTES: IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**. BLACK OXIDE FINISH. NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS



NAAMS CODE	A	MATERIAL	WT. kg
APR330M	M8 x 1.25	Steel / ASTM A-36	0.45
APR331M	M8 x 1.25	SS type 303 or 304	0.45
APR332M	9.0	Steel / ASTM A-36	0.45
APR333M	9.0	SS type 303 or 304	0.45


SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

D

C
A
B

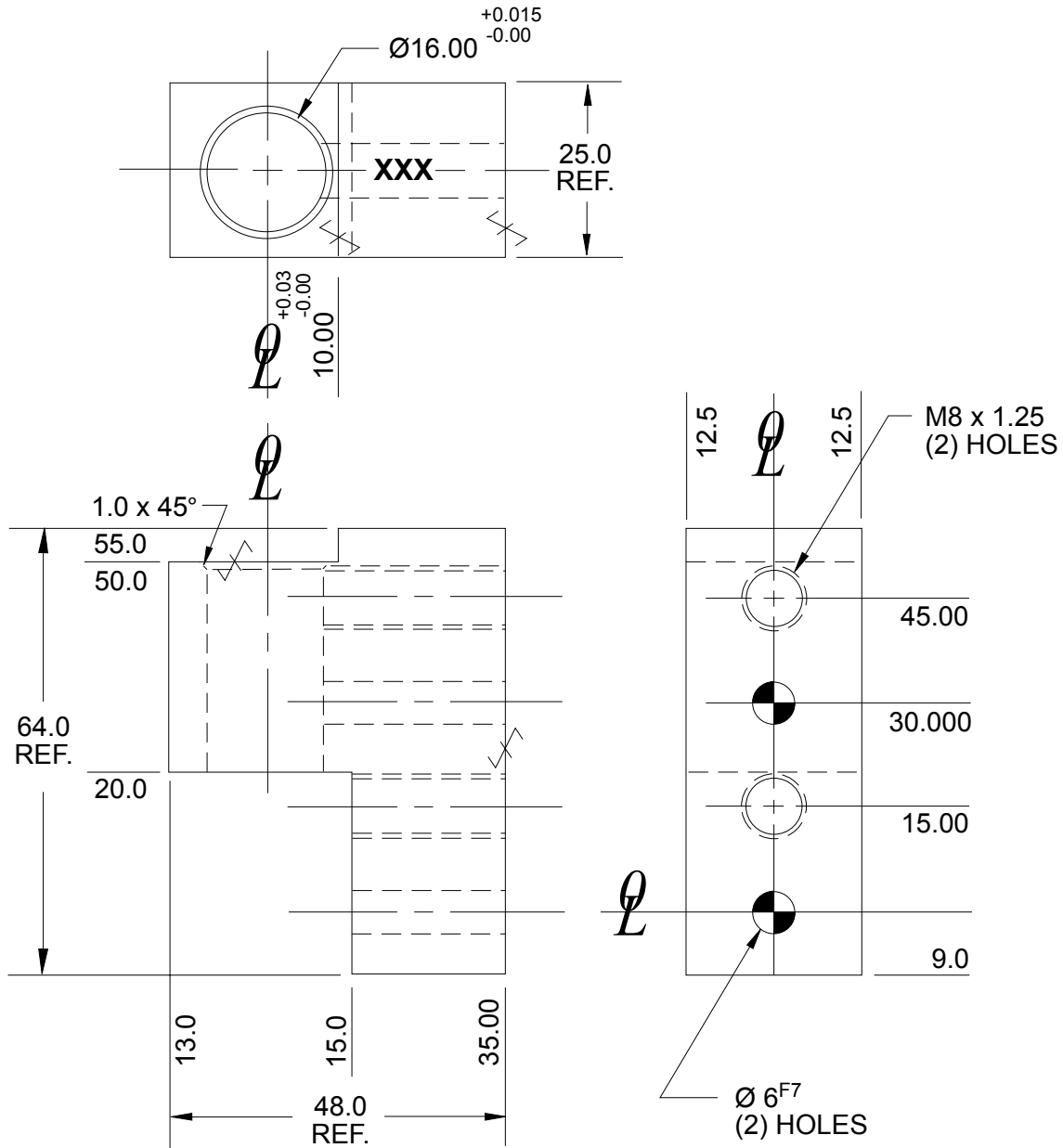
LOCATING PIN RETAINER (FULL METRIC) 20 mm SERIES APR045M, 046M

Tolerances: 1 PLACE ± 0.3
 2 PLACE ± 0.03
 3 PLACE ± 0.020

 SURFACES TO BE FLAT, PARALLEL &
 PERPENDICULAR TO Q WITHIN 0.015 T.I.R.

NOTES: IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.
 BLACK OXIDE FINISH.
 NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS

D




NAAMS CODE	MATERIAL	WT. kg
APR045M	Steel / ASTM A-36	0.32
APR046M	SS type 303 or 304	0.32

SEE PAGE B-1.1 FOR
 GLOBAL MATERIALS CHART

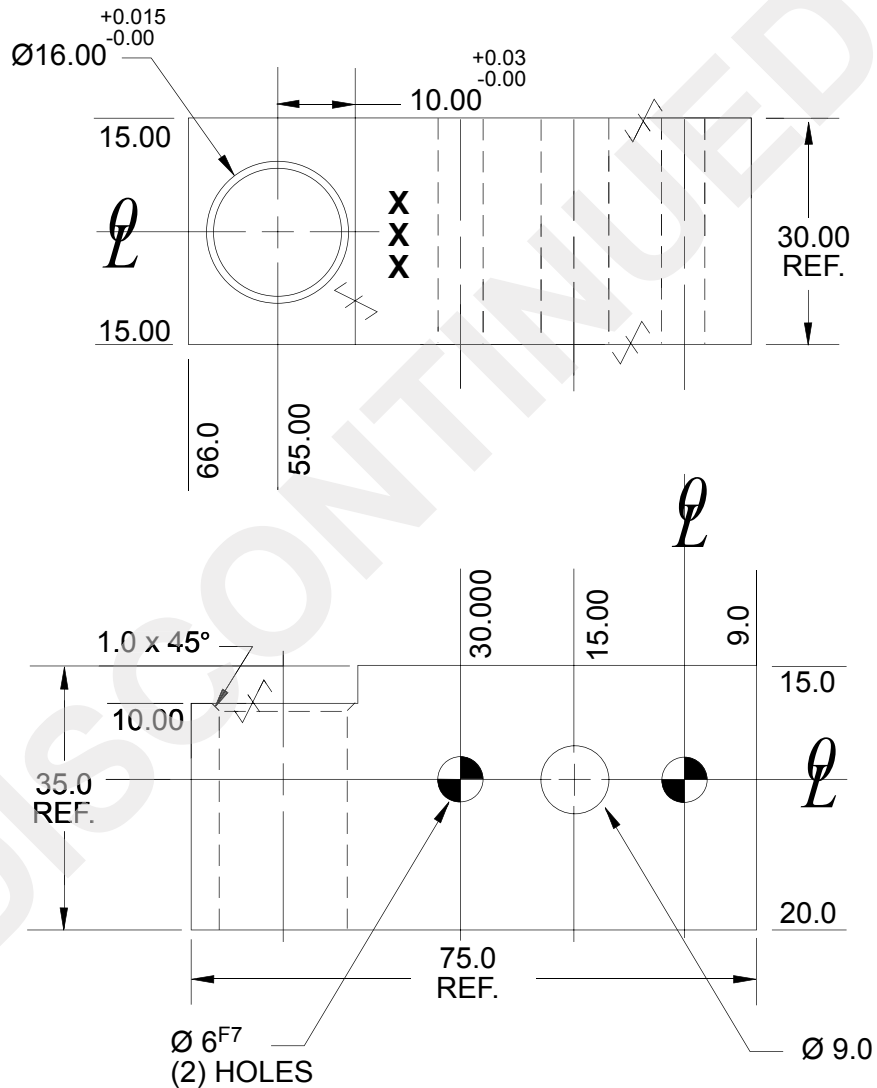
C
 A
 B

LOCATING PIN RETAINER (FULL METRIC) 20 mm SERIES APR055M, 056M

Tolerances: 1 PLACE ± 0.3
 2 PLACE ± 0.03
 3 PLACE ± 0.020

 SURFACES TO BE FLAT, PARALLEL &
 PERPENDICULAR TO Q WITHIN 0.015 T.I.R.

NOTES: IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.
 BLACK OXIDE FINISH.
 NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS.



SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

NAAMS CODE	MATERIAL	WT. kg
APR055M	Steel / ASTM A-36	0.50
APR056M	SS type 303 or 304	0.50

E

D

C

A

B

LOCATING PIN RETAINER (FULL METRIC) 20 mm SERIES APR065M, 066M, 067M, 068M

GLOBAL STANDARD COMPONENTS



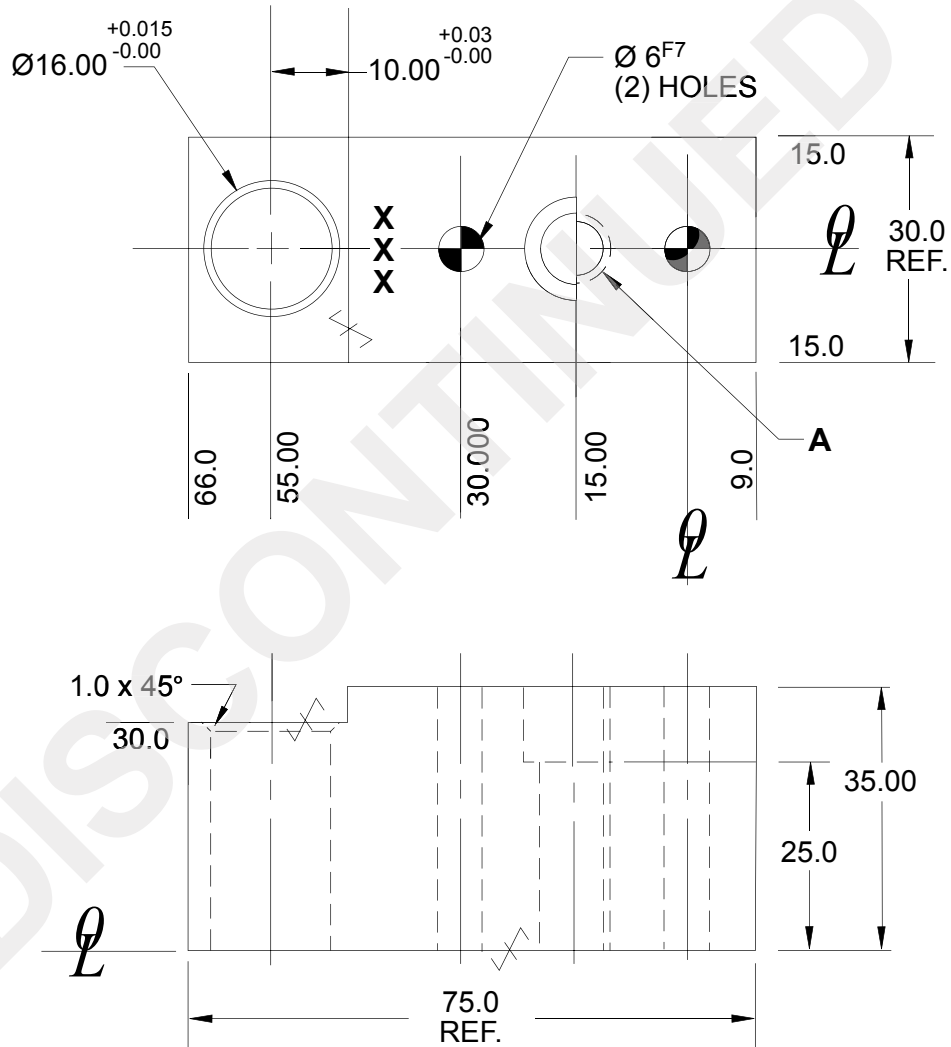
Assembly

04/22/14

- Tolerances: 1 PLACE ± 0.3
 2 PLACE ± 0.03
 3 PLACE ± 0.020

✓ SURFACES TO BE FLAT, PARALLEL &
 PERPENDICULAR TO Q WITHIN 0.015 T.I.R.

NOTES: IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.
 BLACK OXIDE FINISH.
 NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS.



E

D

SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

NAAMS CODE	A	MATERIAL	WT. kg
APR065M	M8 x 1.25	Steel / ASTM A-36	0.50
APR066M	M8 x 1.25	SS type 303 or 304	0.50
APR067M	Drill & C/Bore for M8 SHCS	Steel / ASTM A-36	0.50
APR068M	Drill & C/Bore for M8 SHCS	SS type 303 or 304	0.50


C

A

B

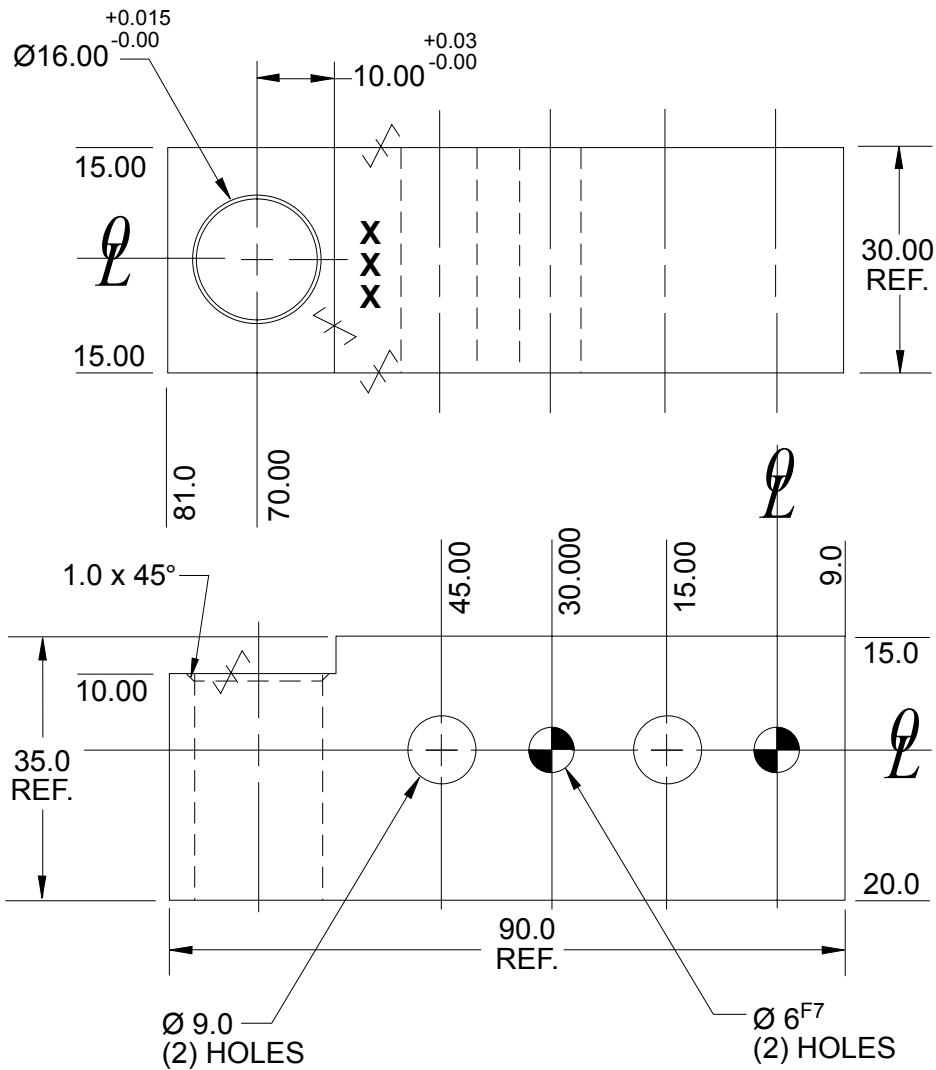
LOCATING PIN RETAINER (FULL METRIC) 20 mm SERIES APR075M, 076M

Tolerances: 1 PLACE ± 0.3
 2 PLACE ± 0.03
 3 PLACE ± 0.020

 SURFACES TO BE FLAT, PARALLEL &
 PERPENDICULAR TO Q WITHIN 0.015 T.I.R.

NOTES: IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.
 BLACK OXIDE FINISH.
 NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS

D



SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

NAAMS CODE	MATERIAL	WT. kg
APR075M	Steel / ASTM A-36	0.63
APR076M	SS type 303 or 304	0.63

C
A
B

LOCATING PIN RETAINER (FULL METRIC) 20 mm SERIES APR314M, 315M, 316M, 317M

GLOBAL STANDARD COMPONENTS

NAAMS



Assembly

04/22/14

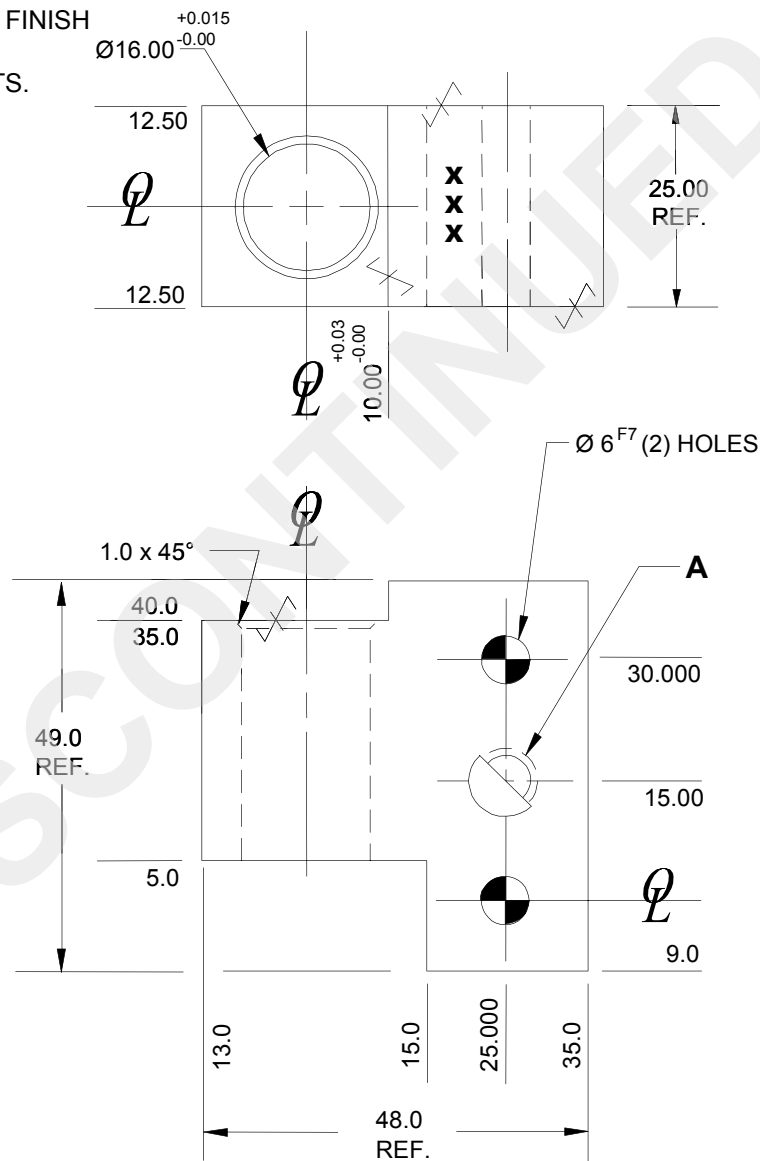
Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.020

✓ SURFACES TO BE FLAT, PARALLEL & PERPENDICULAR TO \varnothing WITHIN 0.015 T.I.R.

NOTES: IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.

BLACK OXIDE FINISH.

NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS.



NAAMS CODE	A	MATERIAL	WT. kg
APR314M	M8 x 1.25	STEEL / ASTM A-36	0.34
APR315M	M8 x 1.25	SS type 303 or 304	0.34
APR316M	9.0	STEEL / ASTM A-36	0.34
APR317M	9.0	SS type 303 or 304	0.34

SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

LOCATING PIN RETAINER (FULL METRIC) 20 mm SERIES APR336M, 337M, 338M, 339M

GLOBAL STANDARD COMPONENTS



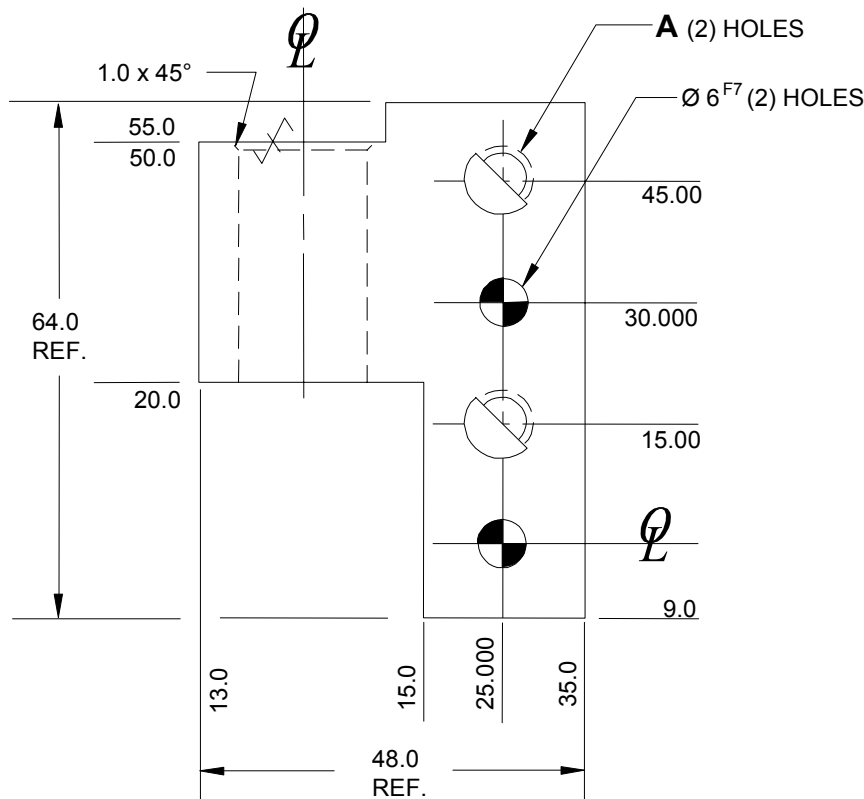
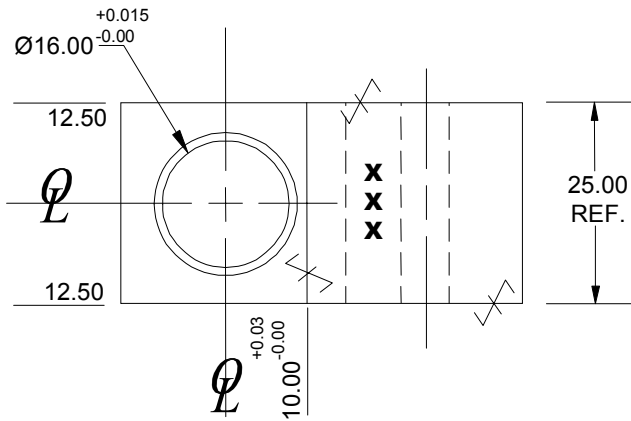
Assembly

02/12/14

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.020

$\sqrt{\text{X}}$ SURFACES TO BE FLAT, PARALLEL & PERPENDICULAR TO \varnothing WITHIN 0.015 T.I.R.

NOTES: IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.
BLACK OXIDE FINISH.
NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS



NAAMS CODE	A	MATERIAL	WT. kg
APR336M	M8 x 1.25	STEEL / ASTM A-36	0.37
APR337M	M8 x 1.25	SS type 303 or 304	0.37
APR338M	9.0	STEEL / ASTM A-36	0.37
APR339M	9.0	SS type 303 or 304	0.37

SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

C

B

A

LOCATING PIN RETAINER (FULL METRIC) 20 mm SERIES APR057M, 058M

GLOBAL STANDARD COMPONENTS



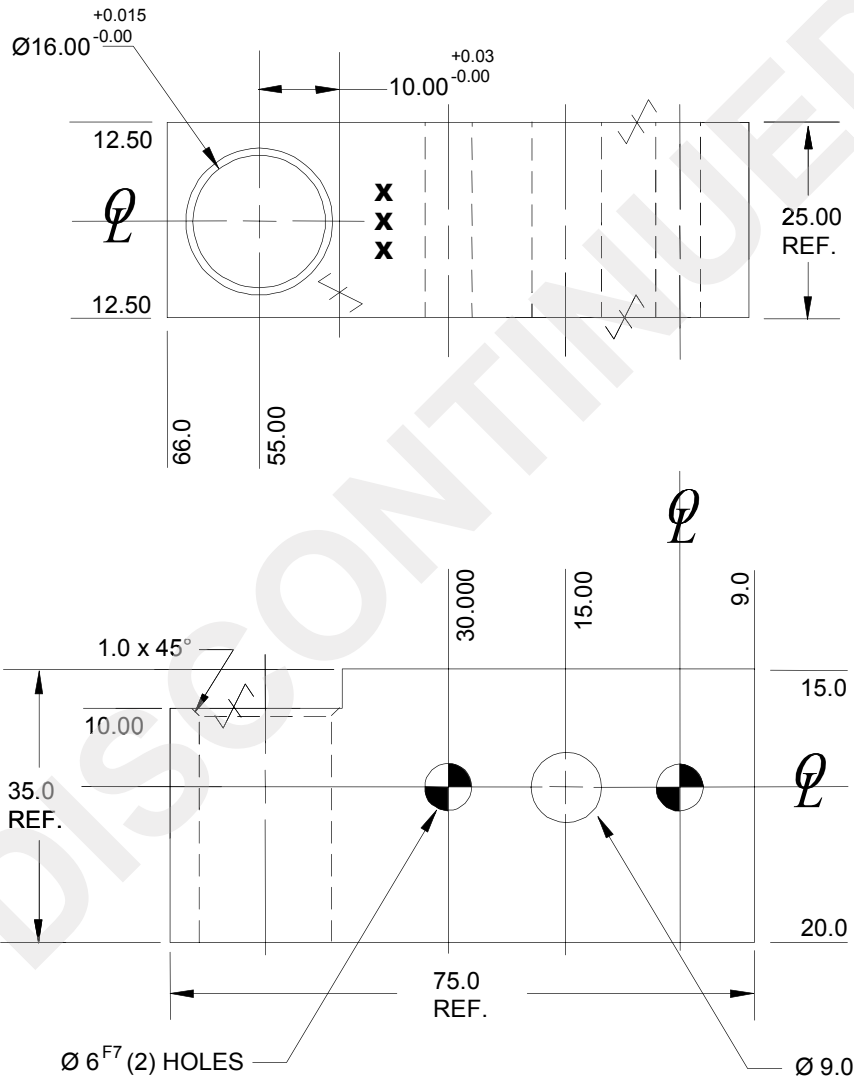
Assembly

04/22/14

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.020

$\sqrt{\text{X}}$ SURFACES TO BE FLAT, PARALLEL & PERPENDICULAR TO \varnothing WITHIN 0.015 T.I.R.

NOTES: IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.
BLACK OXIDE FINISH.
NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS.



SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

NAAMS CODE	MATERIAL	WT. kg
APR057M	STEEL / ASTM A-36	0.41
APR058M	SS type 303 or 304	0.41

D

C

B

A

LOCATING PIN RETAINER (FULL METRIC) 20 mm SERIES APR085M, 086M, 087M, 088M

GLOBAL STANDARD COMPONENTS



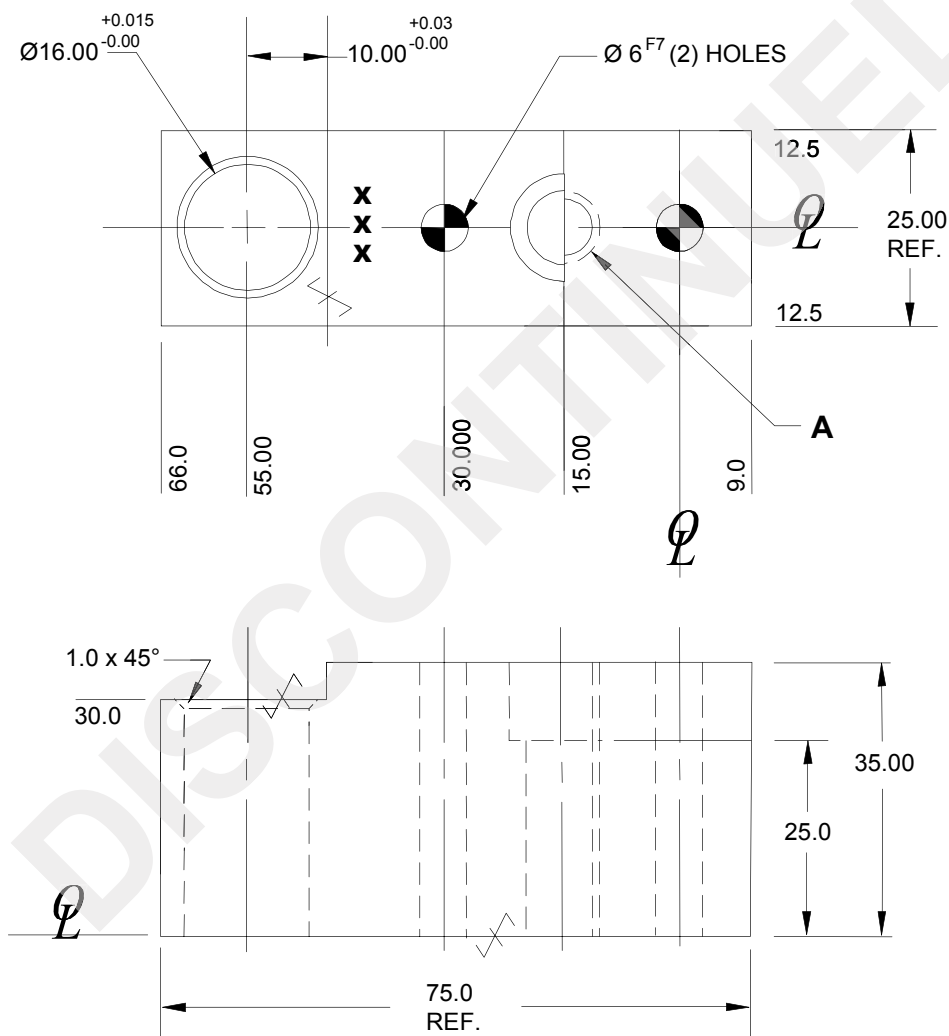
Assembly

04/22/14

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.020

✓ SURFACES TO BE FLAT, PARALLEL & PERPENDICULAR TO \varnothing WITHIN 0.015 T.I.R.

NOTES: IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.
BLACK OXIDE FINISH.
NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS.



SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

NAAMS CODE	A	MATERIAL	WT. kg
APR085M	M8 x 1.25	STEEL / ASTM A-36	0.40
APR086M	M8 x 1.25	SS type 303 or 304	0.40
APR087M	DRILL & C/BORE FOR M8 SHCS	STEEL / ASTM A-36	0.40
APR088M	DRILL & C/BORE FOR M8 SHCS	SS type 303 or 304	0.40

D

C

B

A

LOCATING PIN RETAINER (FULL METRIC) 20 mm SERIES APR077M, 078M

GLOBAL STANDARD COMPONENTS



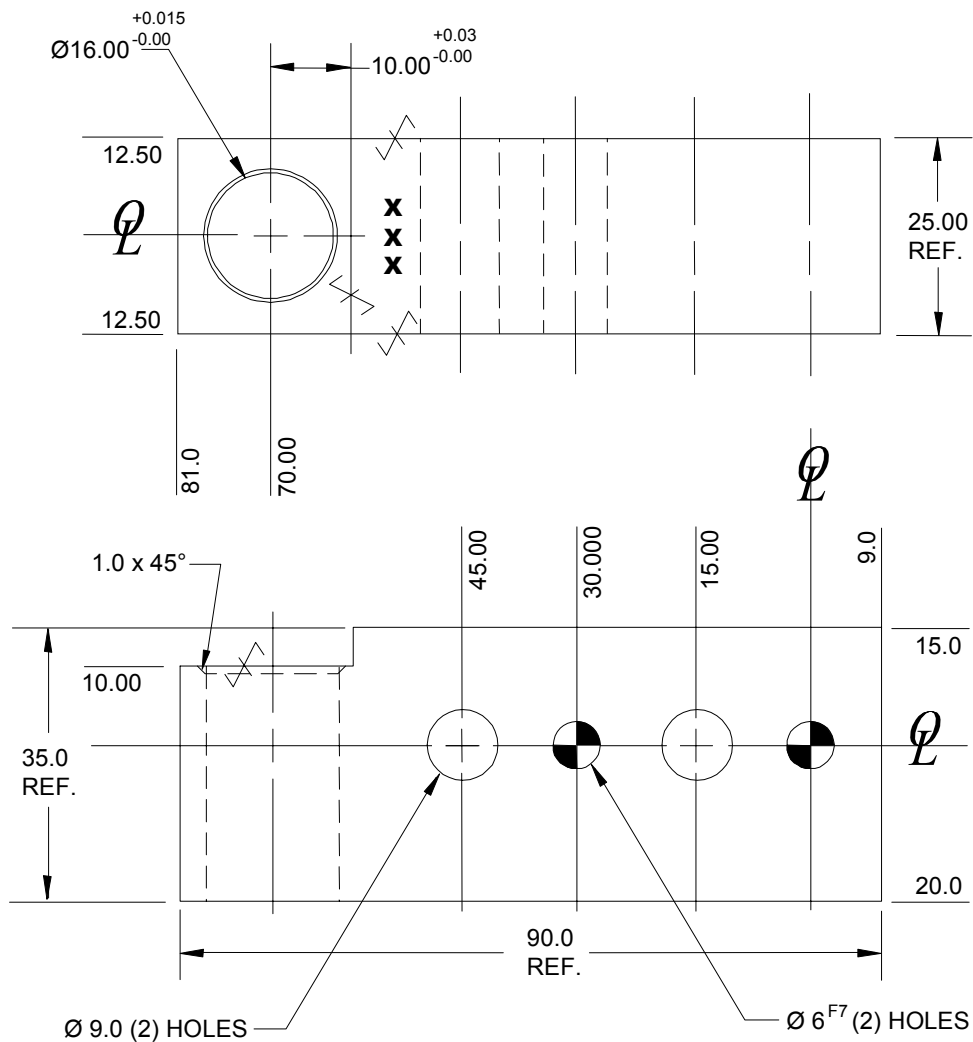
Assembly

02/12/14

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.020

✓ SURFACES TO BE FLAT, PARALLEL & PERPENDICULAR TO \varnothing WITHIN 0.015 T.I.R.

NOTES: IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.
BLACK OXIDE FINISH.
NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS



SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

NAAMS CODE	MATERIAL	WT. kg
APR077M	STEEL / ASTM A-36	0.52
APR078M	SS type 303 or 304	0.52


C

B

A

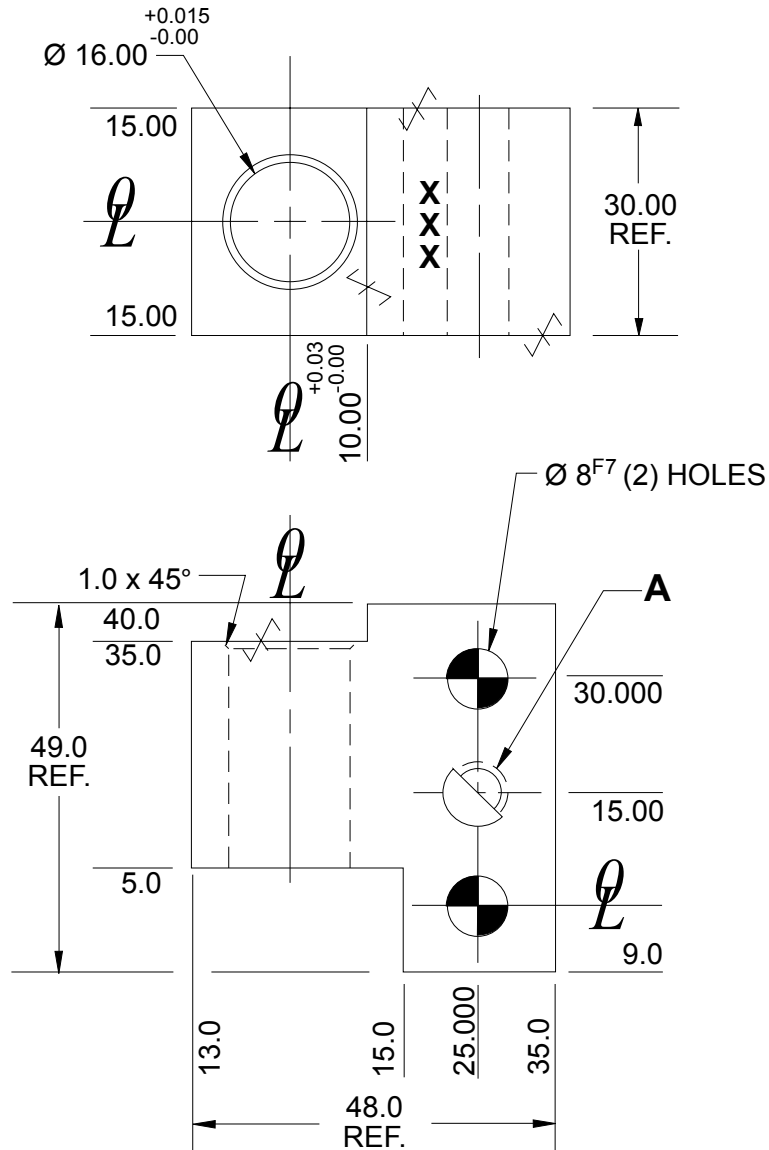
LOCATING PIN RETAINER (FULL METRIC) 20 mm SERIES APR250M THRU APR253M

Tolerances: 1 PLACE ± 0.3
 2 PLACE ± 0.03
 3 PLACE ± 0.020

 SURFACES TO BE FLAT, PARALLEL &
 PERPENDICULAR TO Q WITHIN 0.015 T.I.R.

NOTES: IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.
 BLACK OXIDE FINISH.
 NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS

A




NAAMS CODE	A	MATERIAL	WT. kg
APR250M	M8 x 1.25	Steel / ASTM A-36	0.41
APR251M	M8 x 1.25	SS type 303 or 304	0.41
APR252M	9.0	Steel / ASTM A-36	0.41
APR253M	9.0	SS type 303 or 304	0.41

SEE PAGE B-1.1 FOR
 GLOBAL MATERIALS CHART

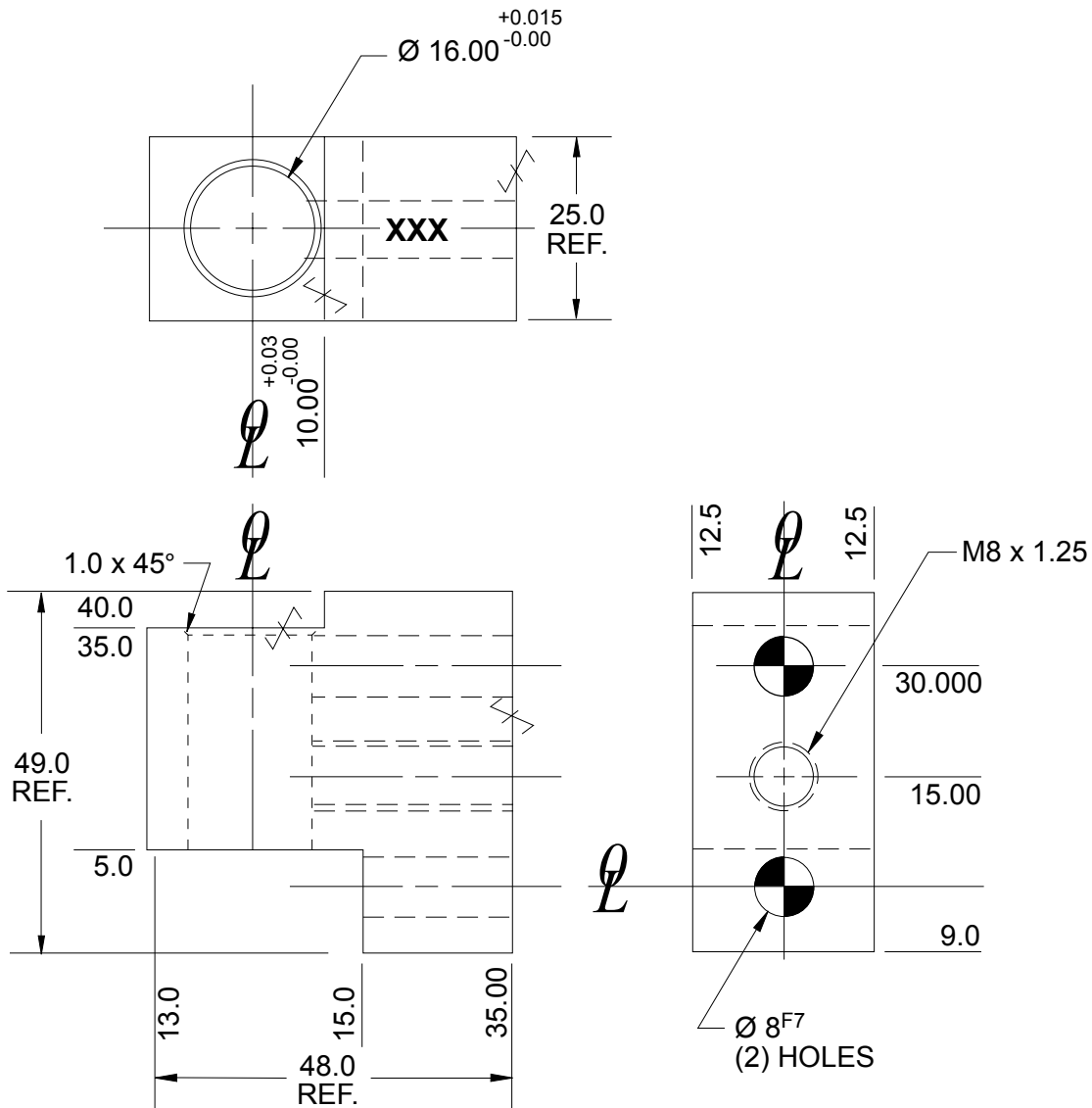
LOCATING PIN RETAINER (FULL METRIC) 20 mm SERIES APR255M, APR256M

Tolerances: 1 PLACE ± 0.3
 2 PLACE ± 0.03
 3 PLACE ± 0.020

 SURFACES TO BE FLAT, PARALLEL &
 PERPENDICULAR TO Q WITHIN 0.015 T.I.R.

NOTES: IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.
 BLACK OXIDE FINISH.
 NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS

A



SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

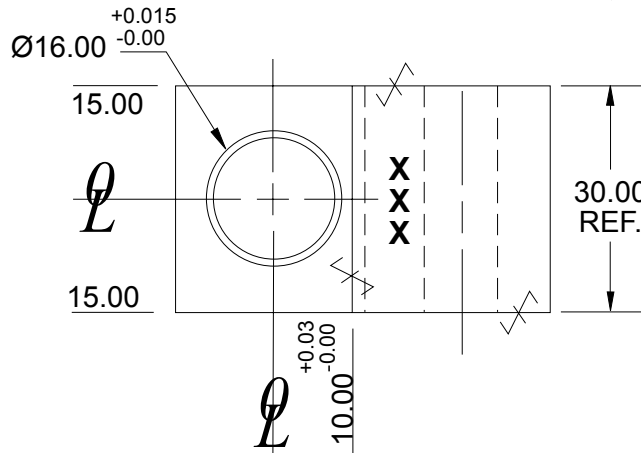
NAAMS CODE	MATERIAL	WT. kg
APR255M	Steel / ASTM A-36	0.41
APR256M	SS type 303 or 304	0.41

LOCATING PIN RETAINER (FULL METRIC) 20 mm SERIES APR201M THRU APR204M



Assembly

02/12/14

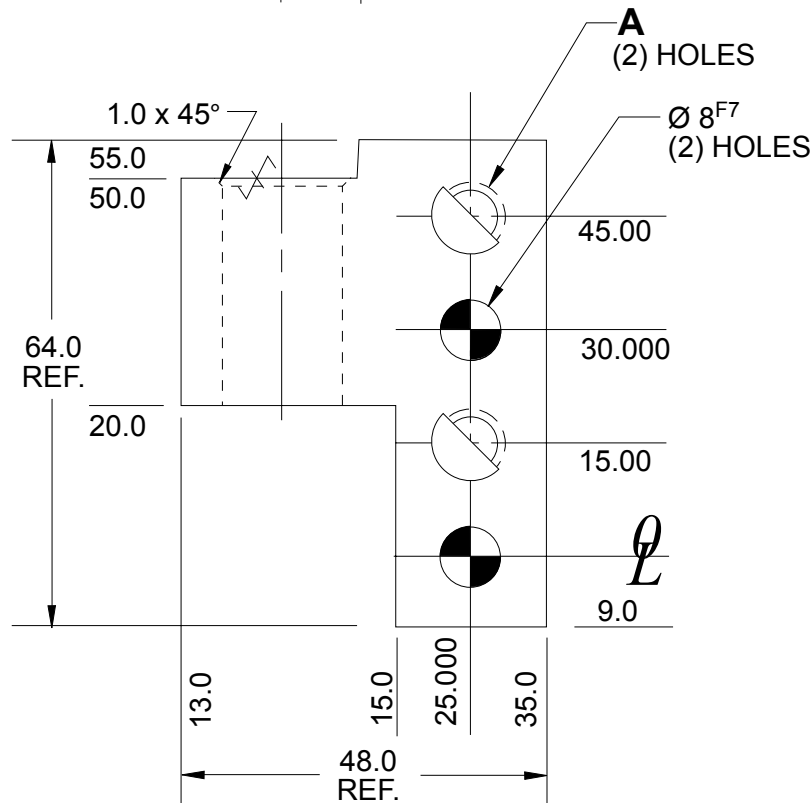


Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.020

SURFACES TO BE FLAT, PARALLEL & PERPENDICULAR TO Q WITHIN 0.015 T.I.R.

NOTES: IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**. BLACK OXIDE FINISH. NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS

A



NAAMS CODE	A	MATERIAL	WT. kg
APR201M	M8 x 1.25	Steel / ASTM A-36	0.45
APR202M	M8 x 1.25	SS type 303 or 304	0.45
APR203M	9.0	Steel / ASTM A-36	0.45
APR204M	9.0	SS type 303 or 304	0.45

SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

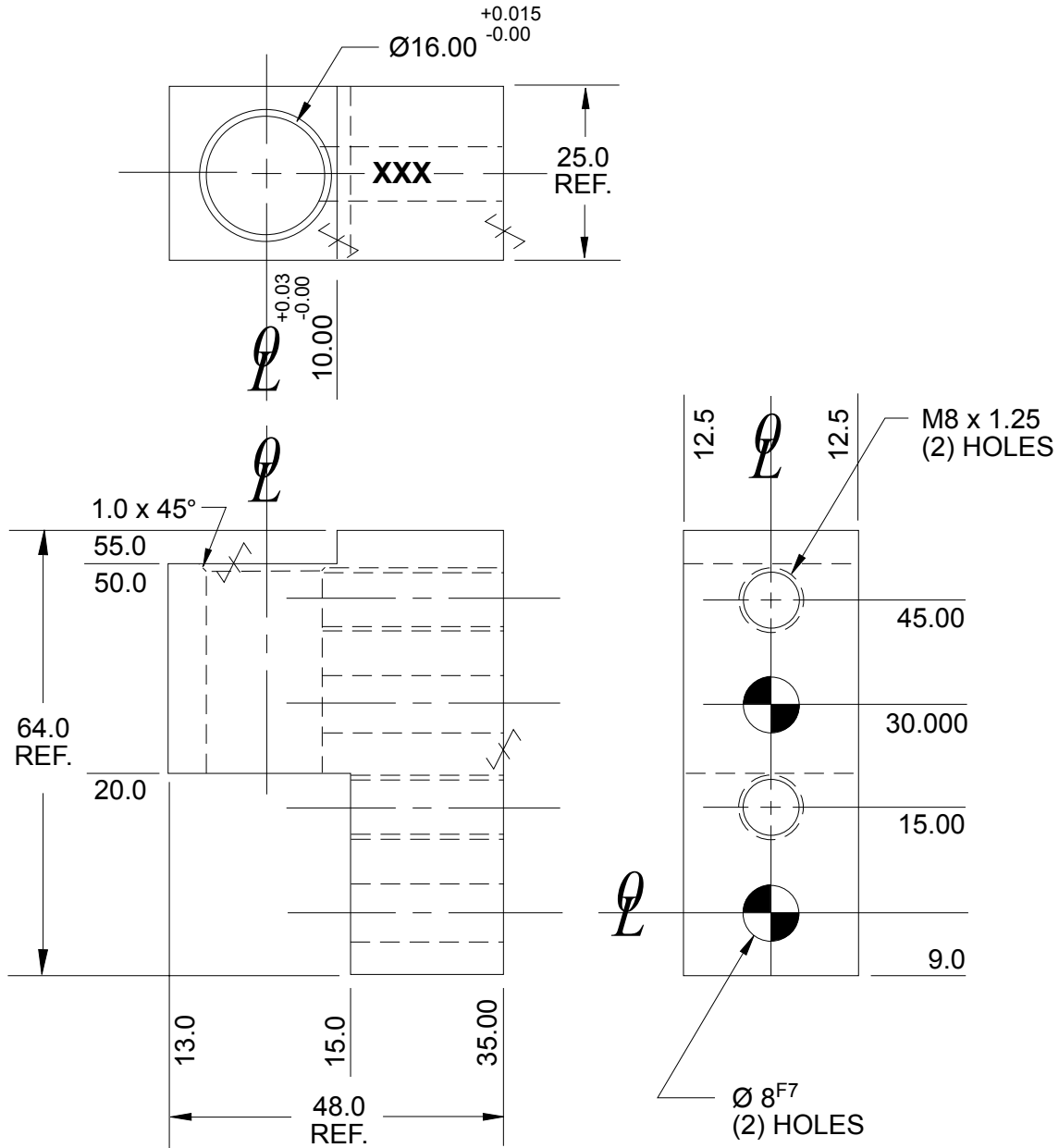
LOCATING PIN RETAINER (FULL METRIC) 20 mm SERIES APR211M THRU APR212M

Tolerances: 1 PLACE ± 0.3
 2 PLACE ± 0.03
 3 PLACE ± 0.020

 SURFACES TO BE FLAT, PARALLEL &
 PERPENDICULAR TO Q WITHIN 0.015 T.I.R.

NOTES: IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.
 BLACK OXIDE FINISH.
 NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS

A




NAAMS CODE	MATERIAL	WT. kg
APR211M	Steel / ASTM A-36	0.32
APR212M	SS type 303 or 304	0.32

SEE PAGE B-1.1 FOR
 GLOBAL MATERIALS CHART

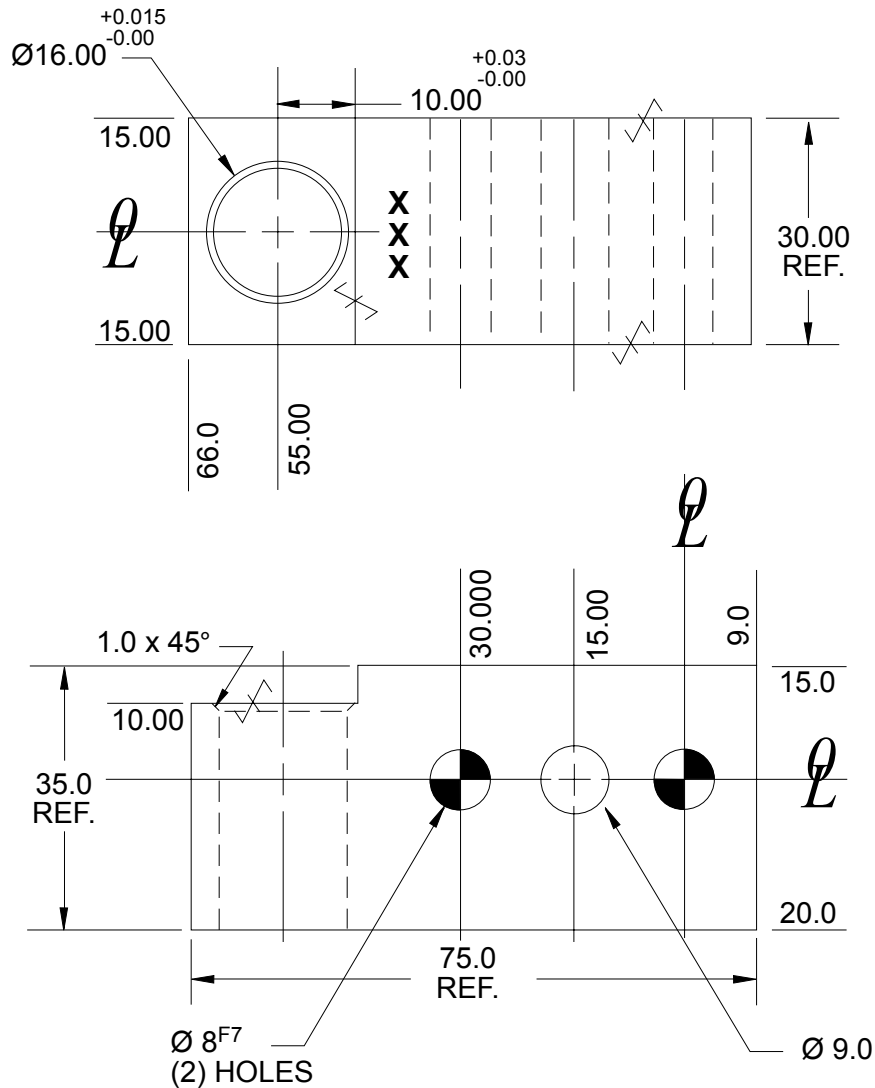
LOCATING PIN RETAINER (FULL METRIC) 20 mm SERIES APR260M, APR261M

Tolerances: 1 PLACE ± 0.3
 2 PLACE ± 0.03
 3 PLACE ± 0.020

 SURFACES TO BE FLAT, PARALLEL &
 PERPENDICULAR TO Q WITHIN 0.015 T.I.R.

NOTES: IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.
 BLACK OXIDE FINISH.
 NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS

A



SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

NAAMS CODE	MATERIAL	WT. kg
APR260M	Steel / ASTM A-36	0.50
APR261M	SS type 303 or 304	0.50

LOCATING PIN RETAINER (FULL METRIC) 20 mm SERIES APR265M THRU APR268M

GLOBAL STANDARD COMPONENTS



Assembly

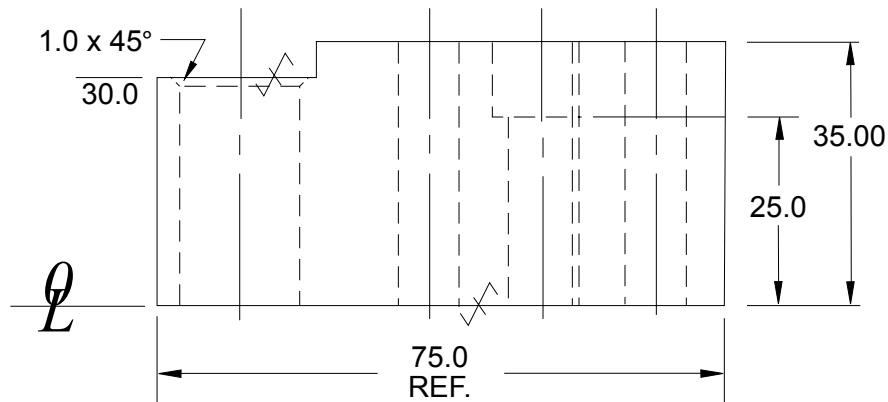
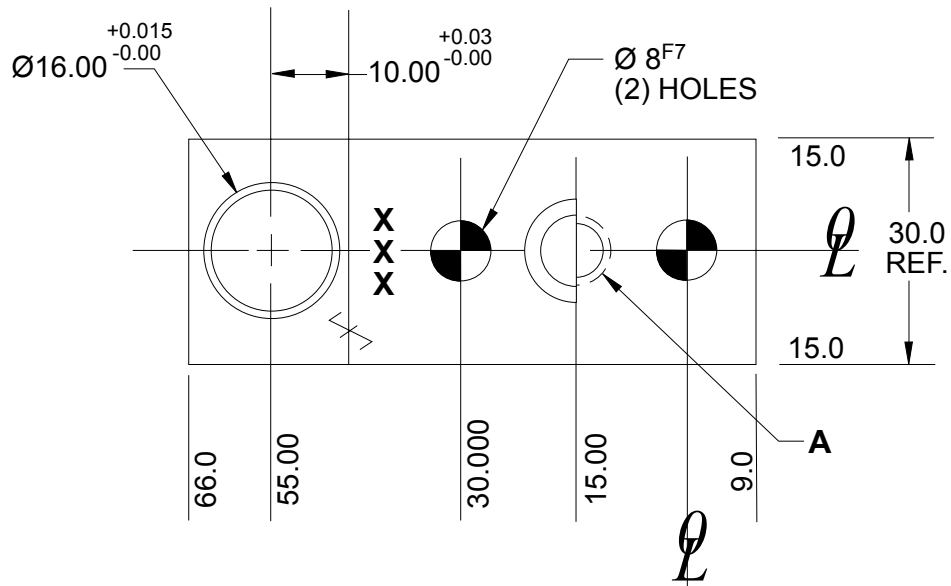
02/12/14

- Tolerances: 1 PLACE ± 0.3
 2 PLACE ± 0.03
 3 PLACE ± 0.020

✓ SURFACES TO BE FLAT, PARALLEL &
 PERPENDICULAR TO Q WITHIN 0.015 T.I.R.

NOTES: IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN XXX.
 BLACK OXIDE FINISH.
 NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS

A




SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

NAAMS CODE	A	MATERIAL	WT. kg
APR265M	M8 x 1.25	Steel / ASTM A-36	0.50
APR266M	M8 x 1.25	SS type 303 or 304	0.50
APR267M	Drill & C/Bore for M8 SHCS	Steel / ASTM A-36	0.50
APR268M	Drill & C/Bore for M8 SHCS	SS type 303 or 304	0.50

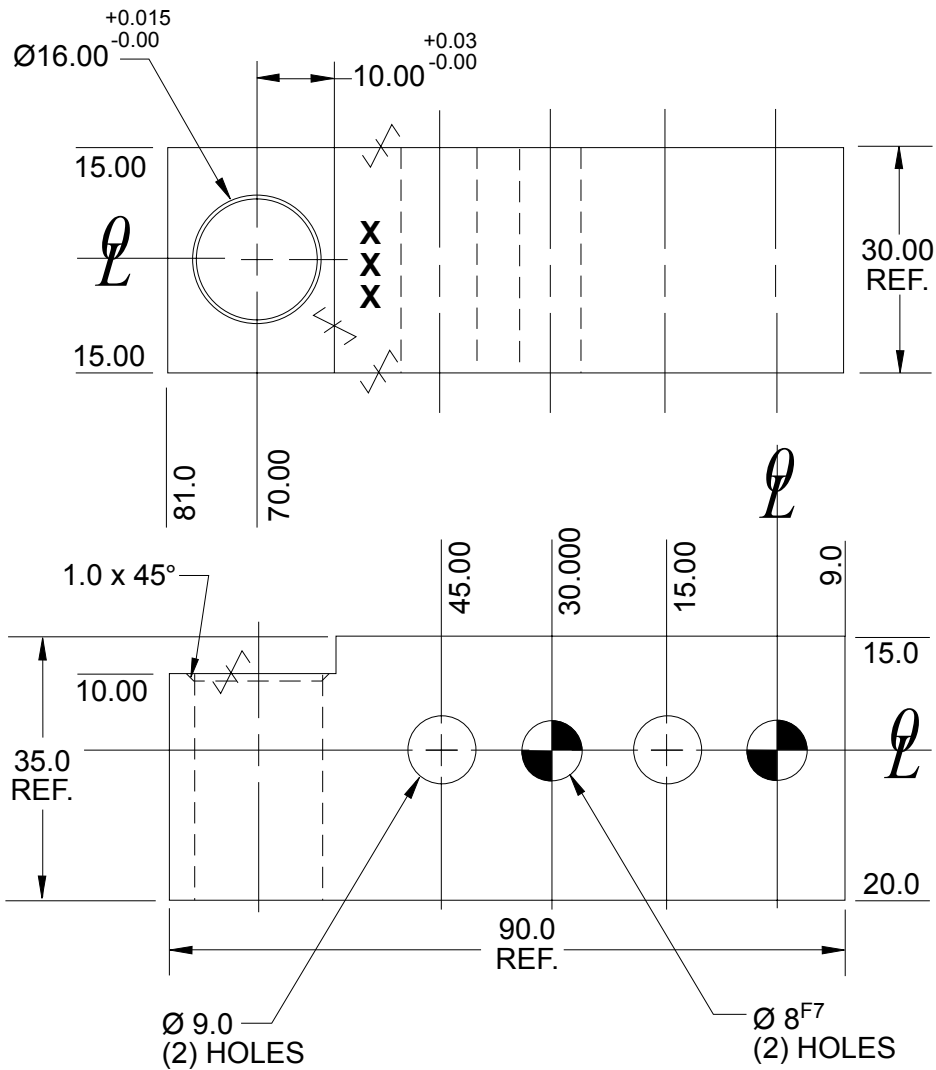
LOCATING PIN RETAINER (FULL METRIC) 20 mm SERIES APR221M, APR222M

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.020

 SURFACES TO BE FLAT, PARALLEL &
PERPENDICULAR TO Q WITHIN 0.015 T.I.R.

NOTES: IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.
BLACK OXIDE FINISH.
NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS

A



SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

NAAMS CODE	MATERIAL	WT. kg
APR221M	Steel / ASTM A-36	0.63
APR222M	SS type 303 or 304	0.63

LOCATING PIN RETAINER (FULL METRIC) 20 mm SERIES APR271M THRU APR274M

GLOBAL STANDARD COMPONENTS



Assembly

02/12/14

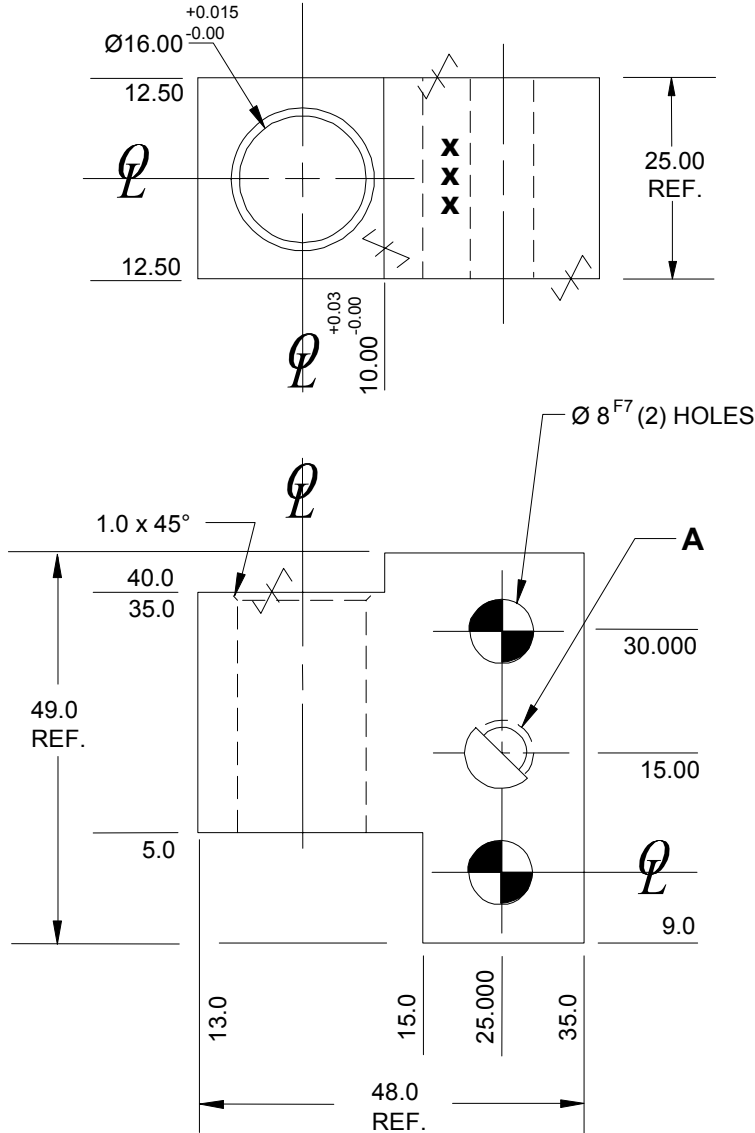
- Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.020

✓ SURFACES TO BE FLAT, PARALLEL & PERPENDICULAR TO \varnothing WITHIN 0.015 T.I.R.

NOTES: IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.
BLACK OXIDE FINISH.

NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS

A



NAAMS CODE	A	MATERIAL	WT. kg
APR271M	M8 x 1.25	STEEL / ASTM A-36	0.34
APR272M	M8 x 1.25	SS type 303 or 304	0.34
APR273M	9.0	STEEL / ASTM A-36	0.34
APR274M	9.0	SS type 303 or 304	0.34

SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

LOCATING PIN RETAINER (FULL METRIC) 20 mm SERIES APR231M THRU APR234M

GLOBAL STANDARD COMPONENTS

NAAMS



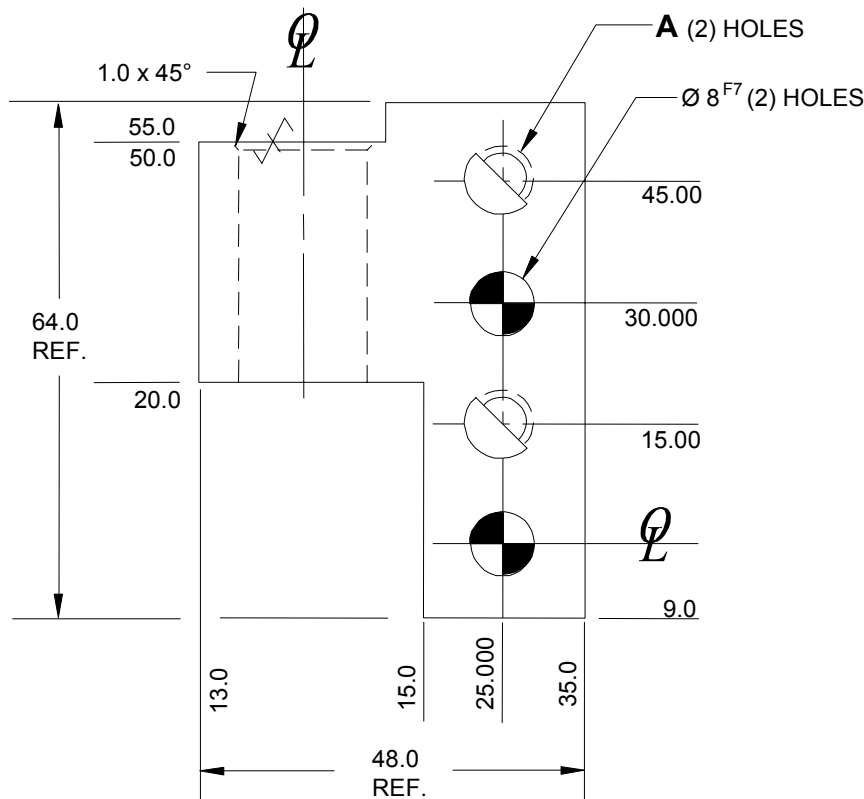
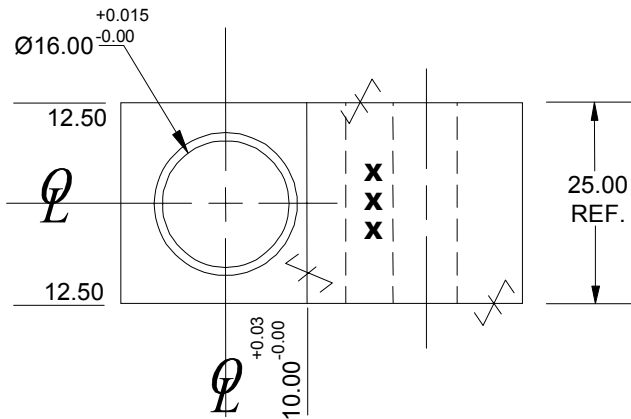
Assembly

02/12/14

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.020

SURFACES TO BE FLAT, PARALLEL & PERPENDICULAR TO \varnothing WITHIN 0.015 T.I.R.

NOTES: IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.
BLACK OXIDE FINISH.
NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS



NAAMS CODE	A	MATERIAL	WT. kg
APR231M	M8 x 1.25	STEEL / ASTM A-36	0.37
APR232M	M8 x 1.25	SS type 303 or 304	0.37
APR233M	9.0	STEEL / ASTM A-36	0.37
APR234M	9.0	SS type 303 or 304	0.37

SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

A

LOCATING PIN RETAINER (FULL METRIC) 20 mm SERIES APR276M, APR277M

GLOBAL STANDARD COMPONENTS



Assembly

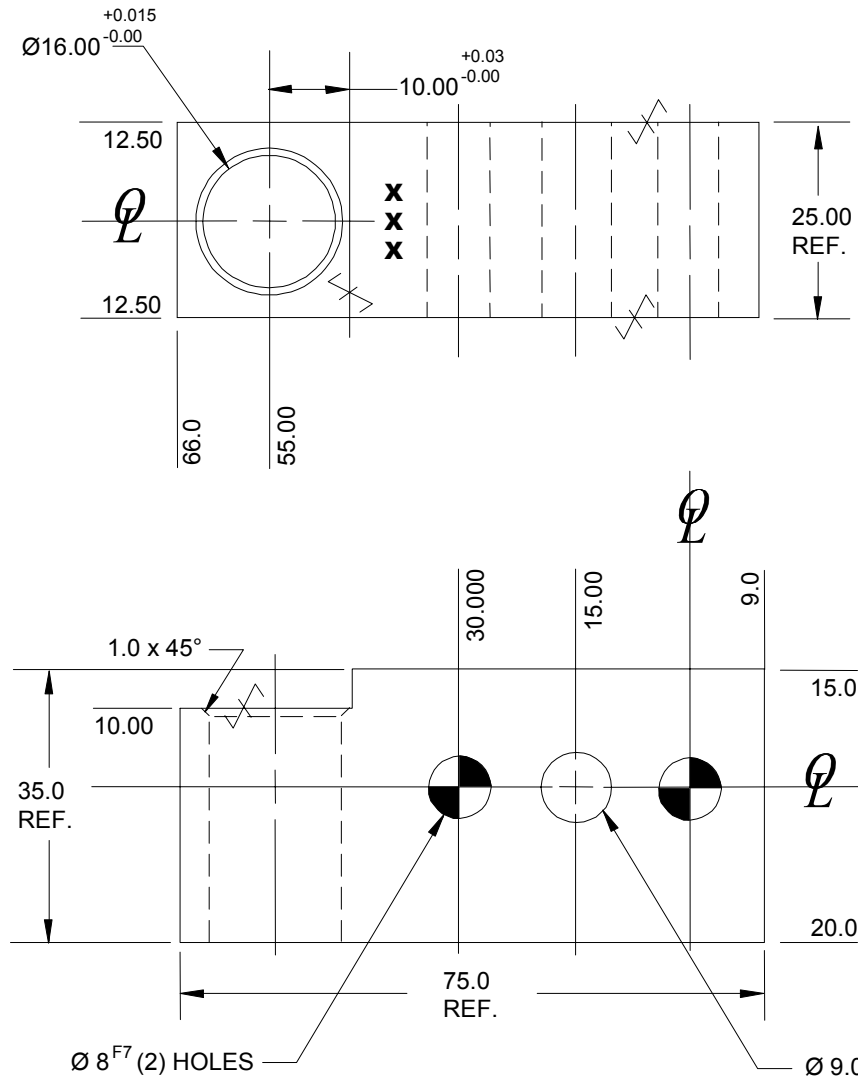
02/12/14

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.020

$\sqrt{\text{X}}$ SURFACES TO BE FLAT, PARALLEL & PERPENDICULAR TO \varnothing WITHIN 0.015 T.I.R.

NOTES: IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.
BLACK OXIDE FINISH.
NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS

A



SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

NAAMS CODE	MATERIAL	WT. kg
APR276M	STEEL / ASTM A-36	0.41
APR277M	SS type 303 or 304	0.41

LOCATING PIN RETAINER (FULL METRIC) 20 mm SERIES APR280M THRU APR283M

GLOBAL STANDARD COMPONENTS

NAAMS



Assembly

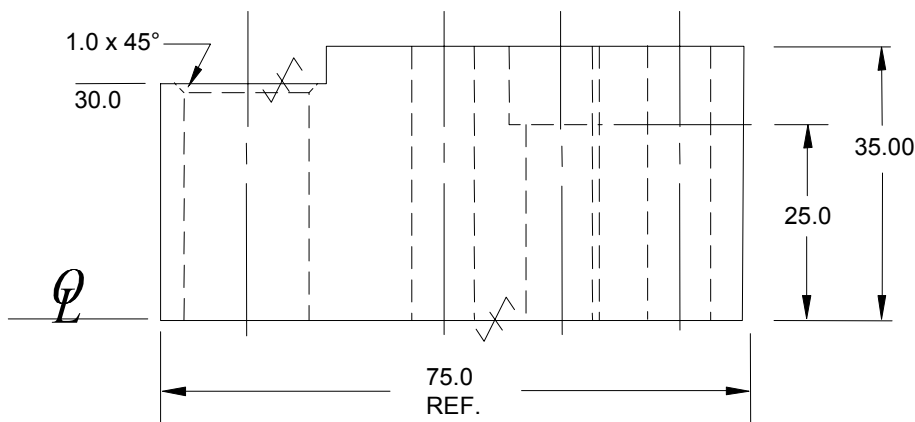
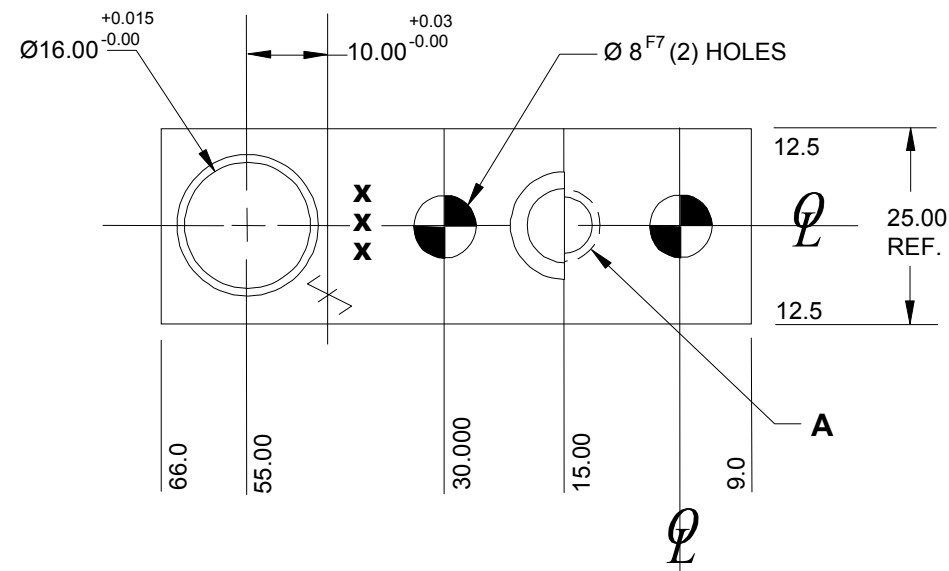
02/12/14

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.020

✓ SURFACES TO BE FLAT, PARALLEL & PERPENDICULAR TO \varnothing WITHIN 0.015 T.I.R.

NOTES: IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.
BLACK OXIDE FINISH.
NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS

A



SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

NAAMS CODE	A	MATERIAL	WT. kg
APR280M	M8 x 1.25	STEEL / ASTM A-36	0.40
APR281M	M8 x 1.25	SS type 303 or 304	0.40
APR282M	DRILL & C/BORE FOR M8 SHCS	STEEL / ASTM A-36	0.40
APR283M	DRILL & C/BORE FOR M8 SHCS	SS type 303 or 304	0.40

LOCATING PIN RETAINER (FULL METRIC) 20 mm SERIES APR241M, APR242M

GLOBAL STANDARD COMPONENTS

NAAMS



Assembly

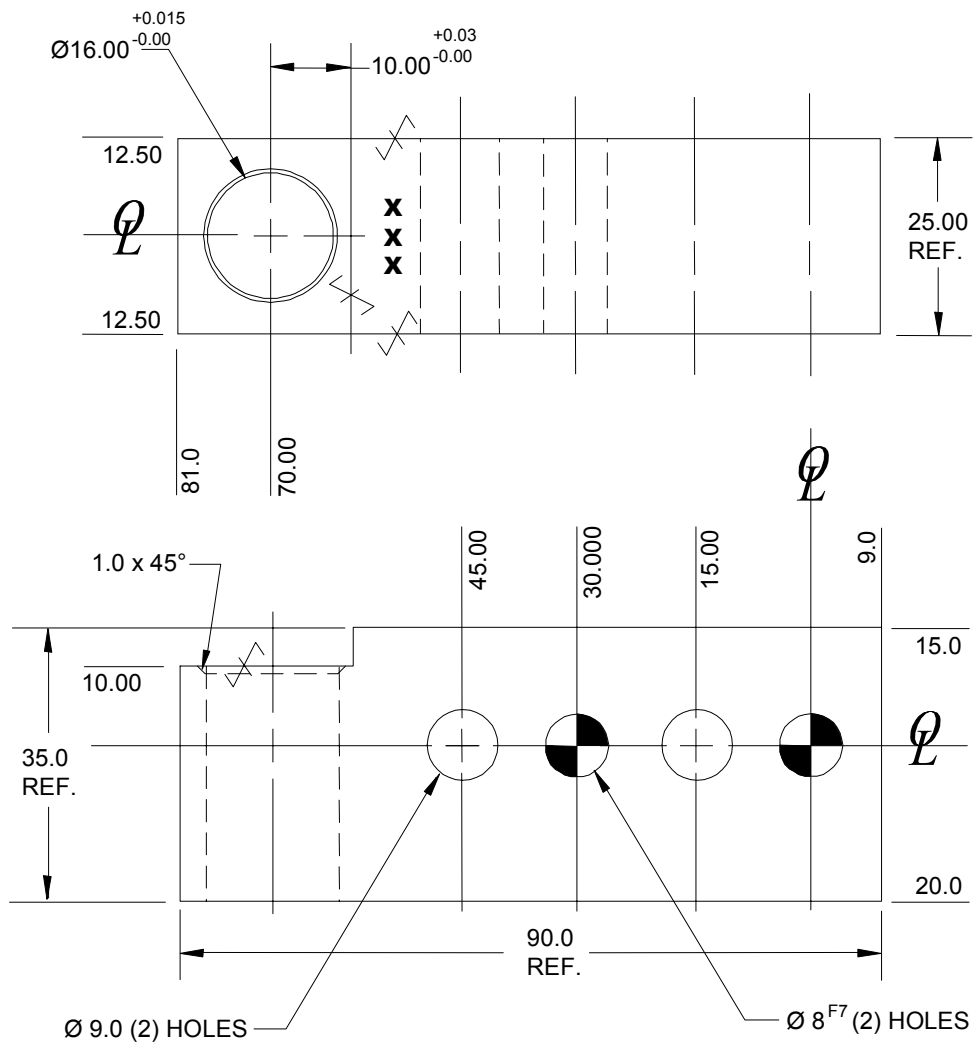
02/12/14

Tolerances: 1 PLACE ± 0.3
2 PLACE ± 0.03
3 PLACE ± 0.020

✓ SURFACES TO BE FLAT, PARALLEL & PERPENDICULAR TO \varnothing WITHIN 0.015 T.I.R.

NOTES: IDENTIFY WITH NAAMS CODE NUMBER AS SHOWN **XXX**.
BLACK OXIDE FINISH.
NO BLACK OXIDE FINISH TO "SS TYPE" COMPONENTS

A



SEE PAGE B-1.1 FOR GLOBAL MATERIALS CHART

NAAMS CODE	MATERIAL	WT. kg
APR241M	STEEL / ASTM A-36	0.52
APR242M	SS type 303 or 304	0.52