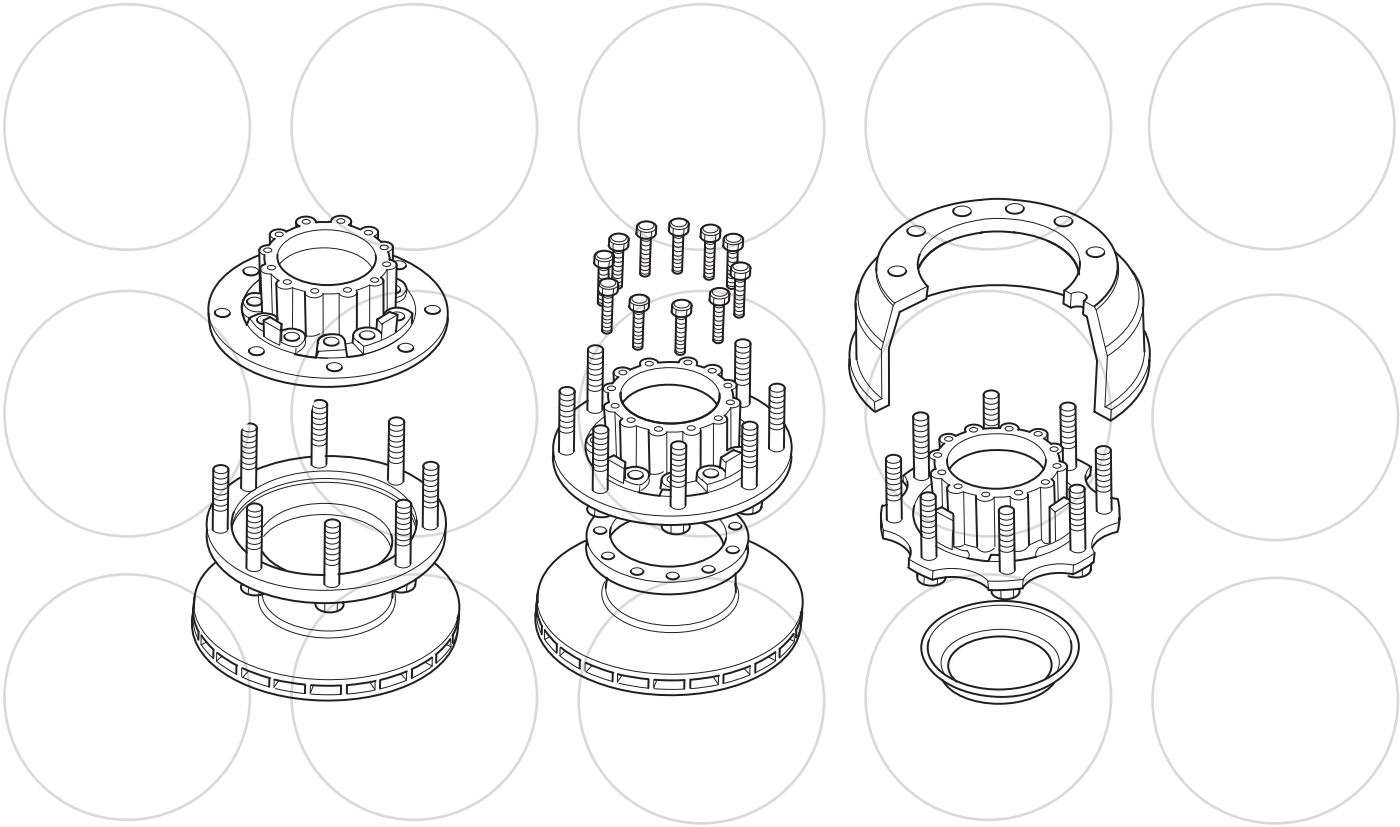
MERITOR™

an *ArvinMeritor* brand

Manual de mantenimiento MM-1114

# Conjunto del extremo de rueda

Actualización 01.2004



# Notas sobre servicios

## Antes de comenzar

Este manual proporciona las instrucciones correspondientes a los conjuntos del extremo de rueda de ArvinMeritor.

1 Antes de comenzar a prestarle servicio a los componentes lea todas las instrucciones y procedimientos.

2 Lea y observe todas las señales de Cuidado y Advertencia que preceden las instrucciones o los procedimientos que realizará. Estos avisos contribuyen a evitar daños a los componentes, lesiones personales graves, o ambos.

3 Siga las directrices de su compañía relativas a mantenimiento y servicio, instalación y diagnósticos.

4 Cuando sea necesario use las herramientas adecuados, para contribuir a evitar lesiones personales graves y daños a los componentes.

## Avisos de seguridad, símbolo de par de torsión y notas

### ⚠ ADVERTENCIA

**La señal de Advertencia requiere que un procedimiento se debe seguir al pie de la letra para evitar lesiones personales serias y daños a los componentes.**

### ⚠ PRECAUCIÓN

**Una señal de Precaución lo alerta a una instrucción o procedimiento que se debe seguir al pie de la letra para evitar daños a los componentes y posibles lesiones personales graves.**

**NOTA**: Una Nota proporciona informaciones o sugerencias que facilitan el servicio correcto a un componente.

El símbolo de par de torsión lo alerta a que apriete los elementos roscados a un par de torsión determinado.

## Información de acceso al sitio de ArvinMeritor en el Internet

También hay información adicional disponible sobre mantenimiento y servicio de la línea de componentes para los sistemas de vehículos comerciales de ArvinMeritor en **www.arvinmeritor.com**

Para tener acceso a la información, haga clic en Products & Services/Truck & Trailer Products/Sales& Service tab/Tech Library. La pantalla exhibirá un índice de publicaciones dividida por tipos.

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Por lo tanto, la información, las descripciones y las ilustraciones contenidas en el presente manual están actualizadas hasta el momento de la aprobación para la impresión.

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## Términos empleados en este manual

**Fabricante :**
ARVINMERITOR

**Manual :**
Manual de mantenimiento nº MM-1114

**Dispositivo :**
Conjunto del extremo de rueda

**Mecánico :**
Personal cualificado que trabaje en el mantenimiento de los montajes de extremo de rueda y de su mantenimiento.

**Mantenimiento y reparación :**
Mantenimiento y reparación se refiere a la comprobación y/o sustitución periódicas de las piezas o componentes del extremo de rueda. También se refiere a la detección de la causa de una avería para poder restaurar las condiciones iniciales de funcionamiento.

**Operador :**
Toda persona que use un conjunto de extremo de rueda como parte de un dispositivo mucho más complejo.

**Garantía :**
La garantía se aplica al conjunto del extremo de rueda instalado en los vehículos para los que fue diseñado. La garantía será nula en los casos siguientes:

- Uso inadecuado del vehículo en que está instalado el conjunto del extremo de rueda (condiciones de uso, sobrecarga, etc.)
- Manipulación de componentes del vehículo que puedan afectar al rendimiento del conjunto del extremo de rueda.
- Uso de piezas de repuesto no originales.
- Instalación, ajuste, reparación o modificación inadecuados.
- Mantenimiento escaso o inadecuado (incluyendo consumibles diferentes de los especificados).

Si desea obtener más información sobre las condiciones de la garantía, consulte al fabricante o visite la página Web de ArvinMeritor: **www.arvinmeritor.com**

# Introducción

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# Introducción

## Descripción

El conjunto del extremo de rueda está destinado a la aplicación en los puentes ARVINMERITOR.
El grupo permite la transmisión directa del movimiento del semieje al buje de rueda; el soporte del buje en el puente está encomendado a un cartucho con dos rodamientos de rodillos cónicos (unit bearing) con una holgura axial predefinida. Con objeto de garantizar un funcionamiento fiable y eficiente del conjunto del extremo de rueda es preciso atenerse escrupulosamente al respeto de los plazos de mantenimiento indicados, al uso de los materiales de consumo y de las herramientas codificadas y de los procedimientos especificados.

## Materiales de consumo recomendados

ARVINMERITOR recomienda el uso de los materiales de consumo siguientes (suministrados como recambios):

| Código | Uso |
|---|---|
| 2297-G-5259 | Sellante |

## Recambios

Usar sólo piezas ARVINMERITOR originales para no anular las garantías.

### ⚠ ADVERTENCIA

**Use únicamente piezas de repuesto Meritor originales. El uso de piezas no originales podría comprometer seriamente las prestaciones del dispositivo.**

# Descripción

## Características Técnicas

A continuación se enumeran las características técnicas del conjunto del extremo de rueda.

| Tipo | H | R | U |
|---|---|---|---|
| Diámetro interior rodamiento (mm) | 78 | 82 | 90 |
| Diámetro exterior rodamiento (mm) | 130 | 140 | 160 |
| Anchura rodamiento (mm) | 90 | 110 | 125 |
| Tuerca de apriete buje | M72x1,5 | M78x2,0 | M88x2,0 |
| Par de apriete tuerca (Nm) | 815-990 | 775-950 | 834-1030 |
| Tornillos de fijación semieje al buje | M12x1,5<br>12.9 | M12x1,5<br>12.9 | M16x2 |
| | | | |
| Par de apriete tornillos de fijación semieje al buje | 60 (Nm)+55°-65° | 60 (Nm)+55°-65° | 235-289 |

## Operaciones de mantenimiento

A continuación se enumeran las principales operaciones de mantenimiento correspondientes a los conjuntos del extremo de rueda.

| Operación | Nº operadores | Herram. especial | Puesto de trabajo | Pág. |
|---|---|---|---|---|
| Sustitución espárragos | 1 | NO | en el vehículo/en el banco | 18 |
| Revisión grupo completo | 2 | SI | en el vehículo/en el banco/en la prensa | 19 |
| Sustitución sensor taquimétrico para rueda fónica | 1 | NO | en el vehículo/en el banco | 29 |

# Vista en despiece

Conjunto del extremo de rueda - Freno de disco - Con sensor taquimétrico montado en el puente

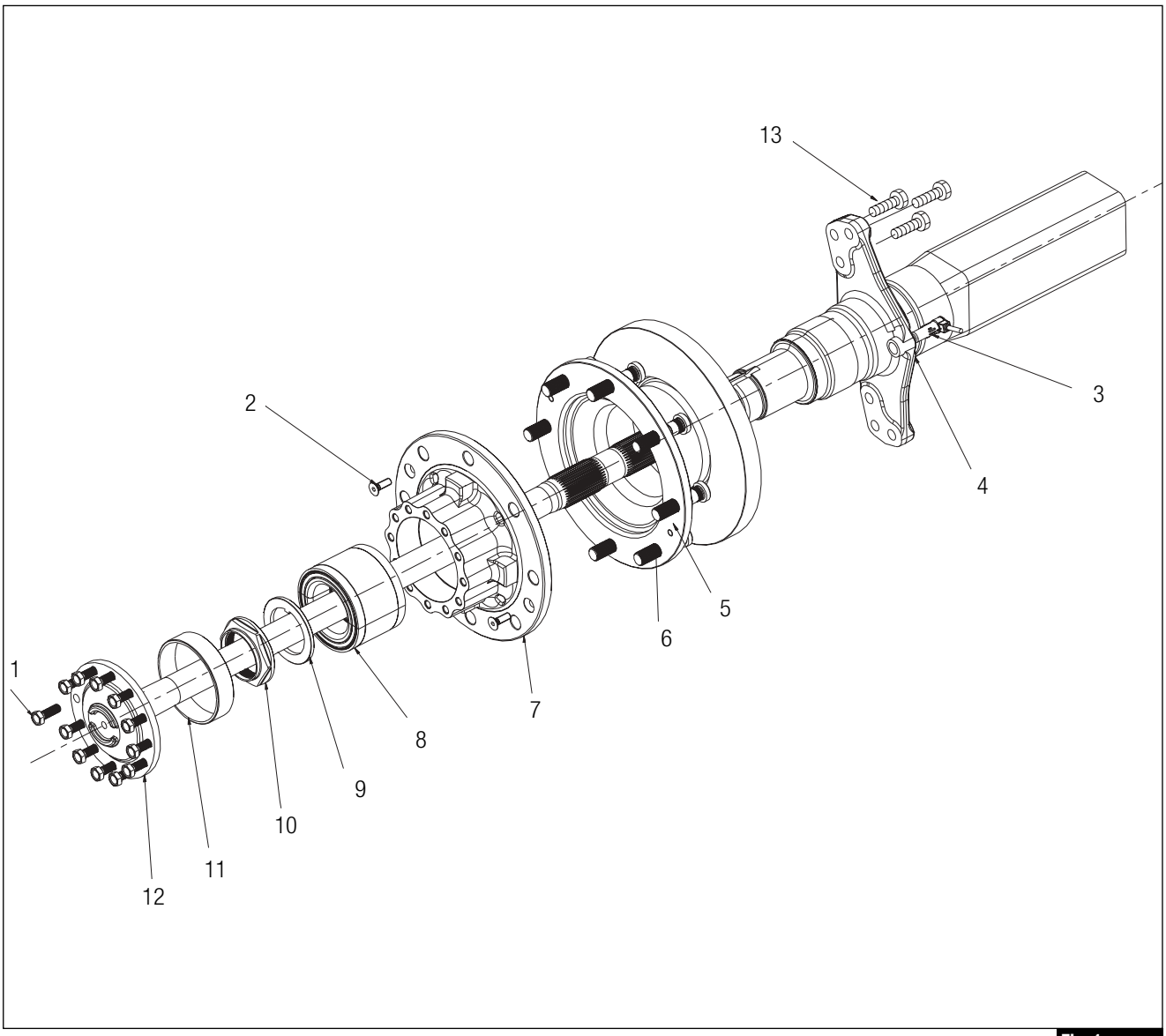


**Fig. 1**

# Lista de piezas

Freno de disco - Con sensor taquimétrico montado en el puente

| Ref. | Descripción | Cant. |
|---|---|---|
| 1 | Tornillo de fijación del semieje | 12 |
| 2 | Tornillo de fijación del disco/buje | 2 |
| 3 | Sensor taquimétrico | 1 |
| 4 | Jaula del sensor taquimétrico | 1 |
| 5 | Disco del freno | 1 |
| 6 | Espárrago | 8 |
| 7 | Buje de rueda | 1 |
| 8 | Cartucho de los rodamientos (unit bearing) | 1 |
| 9 | Arandela ranurada | 1 |
| 10 | Tuerca del apriete del buje | 1 |
| 11 | Anillo separador | 1 |
| 12 | Semieje | 1 |
| 13 | Tornillo de sujeción de pinza | 6 |

**Pares de apriete (Nm)**

| Ref. | Descripción | Cant. | Medida | | |
|---|---|---|---|---|---|
| 1 | Tornillo de fijación del semieje | 12 | M12X1.5 12.9 | 60(Nm)+55°-65° | |
| 2 | Tornillo de fijación del disco/buje | 2 | M10X1.5 | | 20-30(Nm) |
| 10 | Tuerca del apriete del buje | 1 | M72X1.5 | | 815-990(Nm) |
| | | | M78X2.0 | | 775-950(Nm) |
| 13 | Tornillo de sujeción de pinza | | | | |
| | (freno Lucas) | 6 | M16X1.5 | | 260-280(Nm) |
| | (freno Lucas) | 6 | M20X2.0 | 300±30(Nm)+60±5° | 500-550(Nm) |
| | | 6 | M14X1.5 | | 190-210(Nm) |
| | | 6 | M16 X 2 | | 280-320(Nm) |
| | | 6 | M18X1.5 | | 415-455(Nm) |
| | | 6 | M20X1.5 | | 570-630(Nm) |

# Vista en despiece

Conjunto del extremo de rueda - freno de disco con sensor integrado en el rodamiento

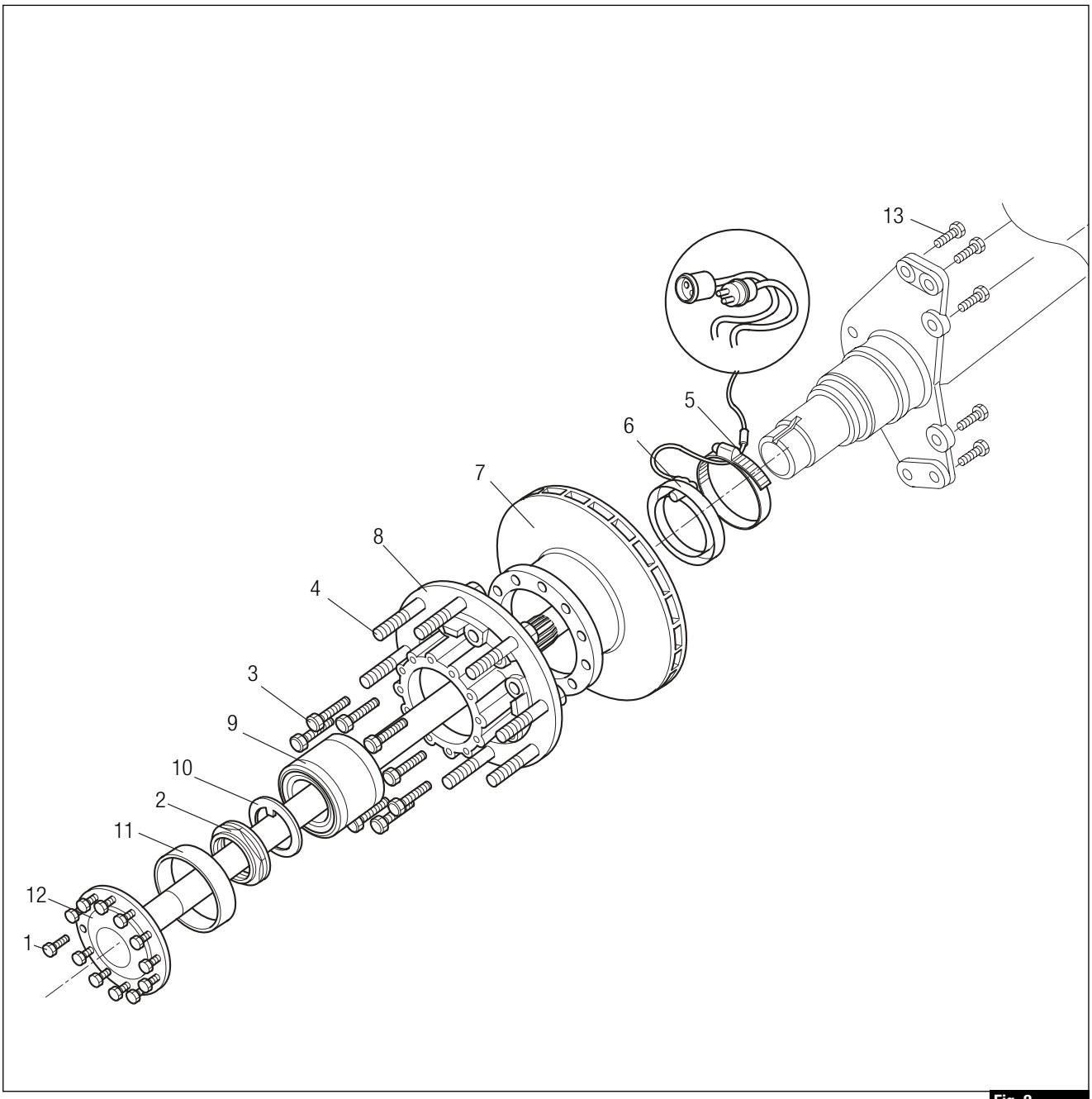


**Fig. 2**

# Lista de piezas

Conjunto del extremo de rueda - Freno de disco - con sensor integrado en el rodamiento

| Ref. | Descripción | Cant. |
|---|---|---|
| 1 | Tornillo de fijación del semieje | 12 |
| 2 | Tuerca del apriete del buje | 1 |
| 3 | Tornillo de fijación del disco/buje | 12 |
| 4 | Espárrago de la rueda | 10 |
| 5 | Abrazadera metálica | 1 |
| 6 | Anillo del sensor ABS | 1 |
| 7 | Disco freno | 1 |
| 8 | Buje de rueda | 1 |
| 9 | Cartucho del rodamiento | 1 |
| 10 | Arandela ranurada | 1 |
| 11 | Anillo separador | 1 |
| 12 | Semieje | 1 |
| 13 | Tornillo de sujeción de pinza | 6 |

**Pares de apriete (Nm)**

| Ref. | Descripción | Cant. | Medida | | |
|---|---|---|---|---|---|
| 1 | Tornillo de fijación del semieje | 12 | M16X2 | | 235-289(Nm) |
| 2 | Tuerca del apriete del buje | 1 | M88X2 | | 834-1030(Nm) |
| 3 | Tornillo de fijación del disco/buje | 12 | M16X2 | | 230-270(Nm) |
| 4 | Espárrago de la rueda | 10 | M22X1,5 | | |
| 13 | Tornillo de sujeción de pinza | | | | |
| | (freno Lucas) | 6 | M16X1.5 | | 260-280(Nm) |
| | (freno Lucas) | 6 | M20X2.0 | 300±30(Nm)+60±5° | 500-550(Nm) |
| | | 6 | M14X1.5 | | 190-210(Nm) |
| | | 6 | M16 X 2 | | 280-320(Nm) |
| | | 6 | M18X1.5 | | 415-455(Nm) |
| | | 6 | M20X1.5 | | 570-630(Nm) |

# Secciones del freno de disco

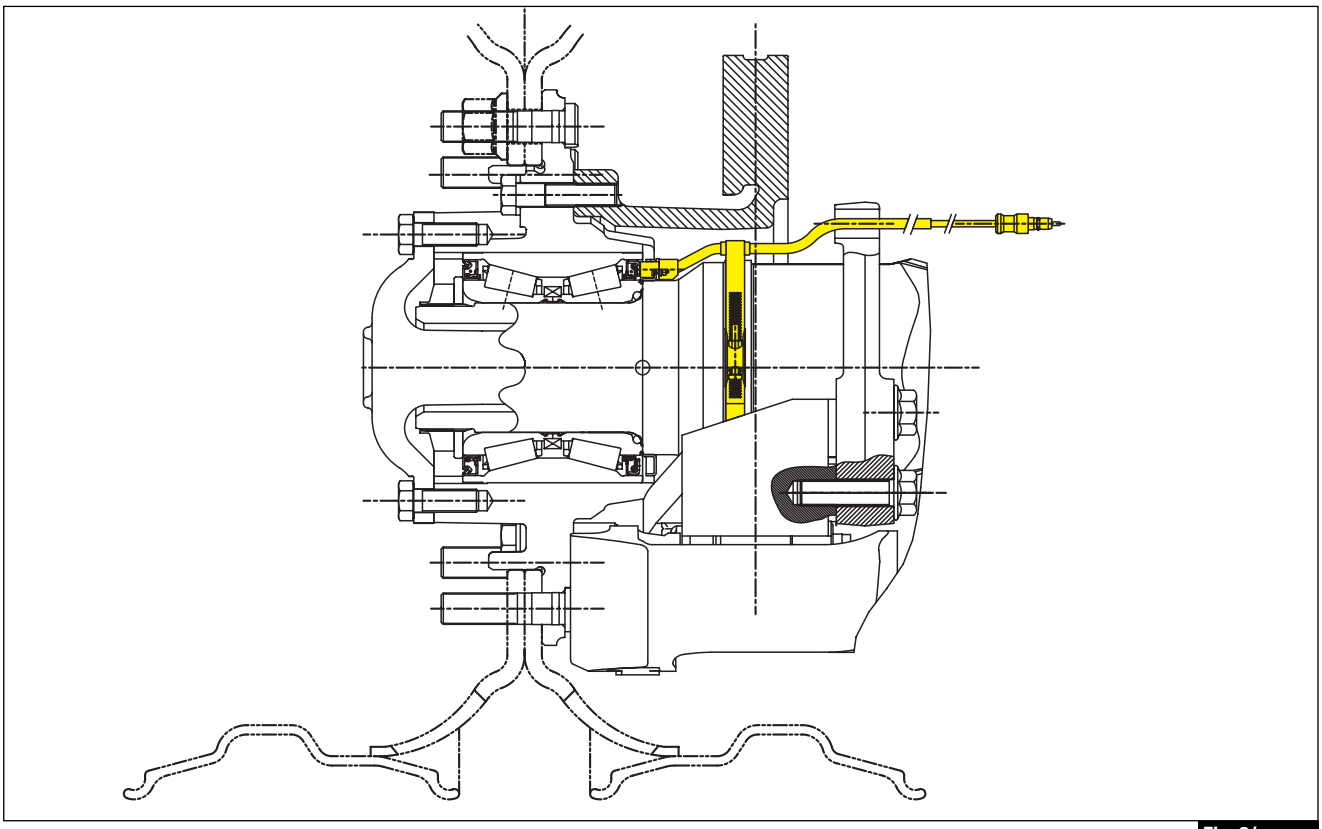

Fig. 2/a

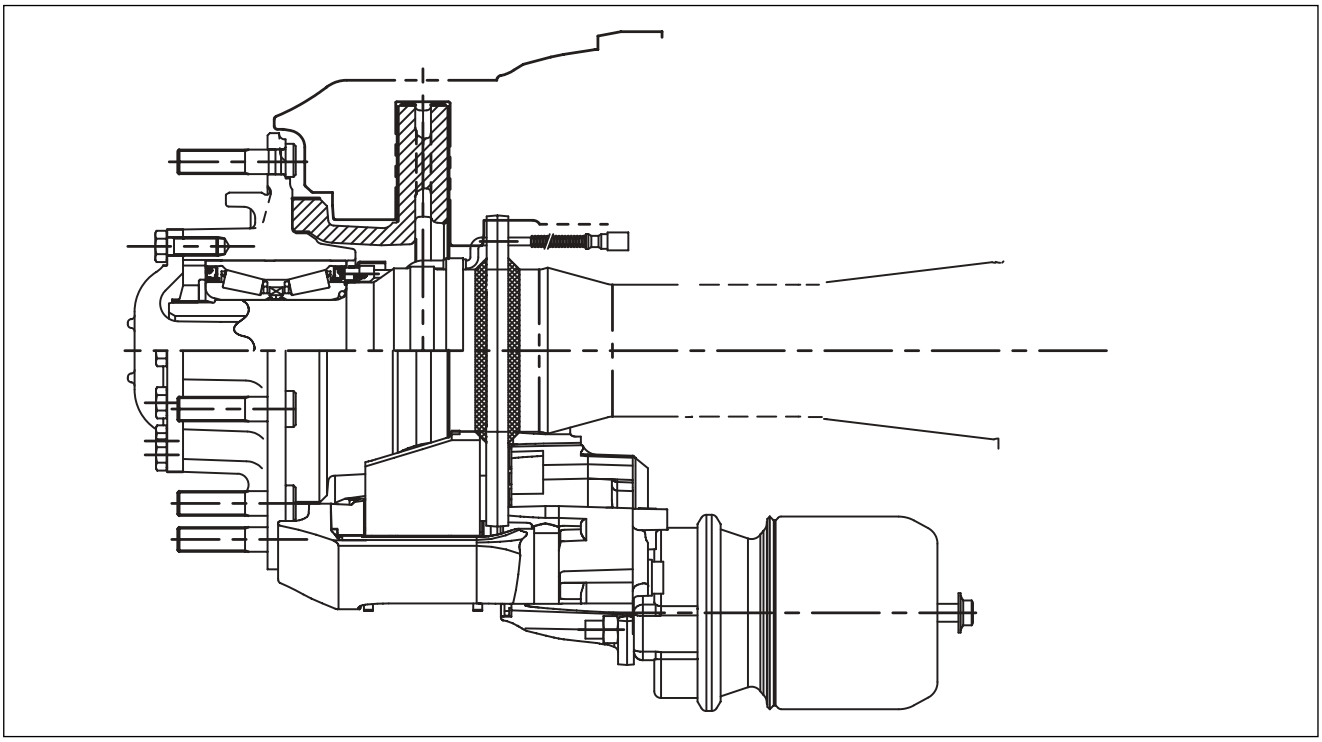

Fig. 2/b

# Vista en despiece

Conjunto del extremo de rueda - freno de tambor con sensor integrado en el rodamiento

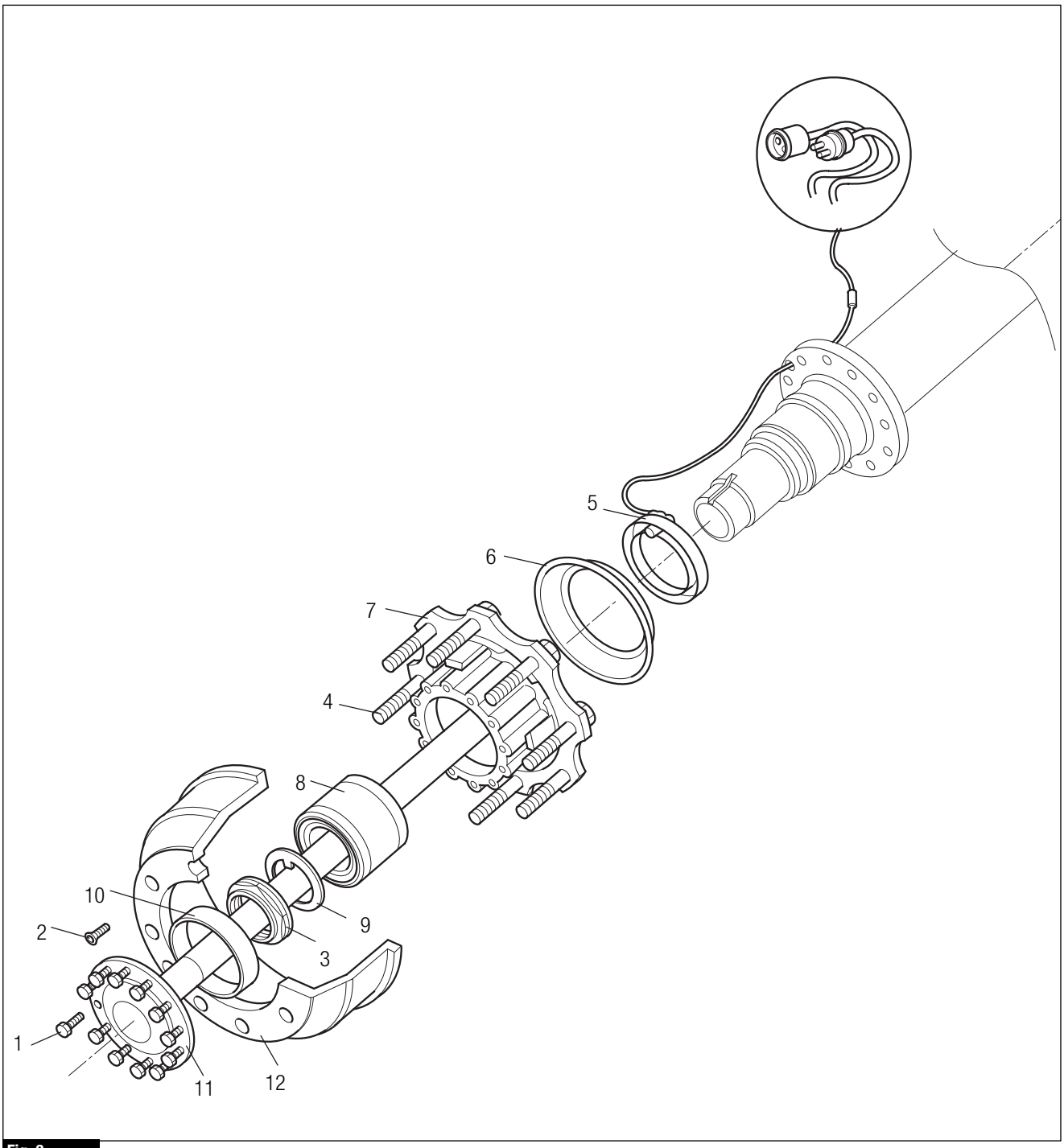


**Fig. 3**

# Lista de piezas

Conjunto del extremo de rueda - freno de tambor con sensor integrado en el rodamiento

| Ref. | Descripción | Cant. |
|---|---|---|
| 1 | Tornillo del semieje | 12 |
| 2 | Tornillo | 2 |
| 3 | Tuerca del apriete del buje | 1 |
| 4 | Espárrago de la rueda | 10 |
| 5 | Anillo del sensor ABS | 1 |
| 6 | Cárter del aceite | 1 |
| 7 | Buje de rueda | 1 |
| 8 | Cartucho del rodamiento | 1 |
| 9 | Arandela ranurada | 1 |
| 10 | Anillo separador | 1 |
| 11 | Semieje | 1 |
| 12 | Tambor | 1 |

**Pares de apriete (Nm)**

| Ref. | Descripción | Cant. | Medida | |
|---|---|---|---|---|
| 1 | Tornillo del semieje | 12 | M16X2 | 235-289(Nm) |
| 2 | Tornillo | 2 | M10X1.5 | 20-30(Nm) |
| 3 | Tuerca del apriete del buje | 1 | M88X2 | 834-1030(Nm) |
| 4 | Espárrago de la rueda | 10 | M22X1,5 | |

# Secciones del freno de tambor Duplex - Simplex

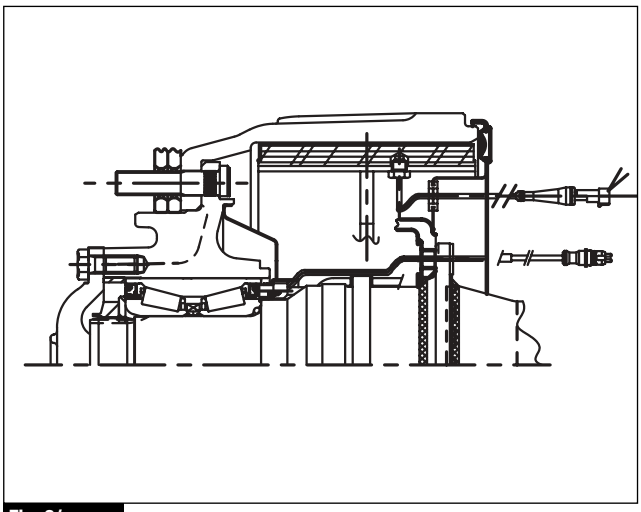

Fig. 3/a

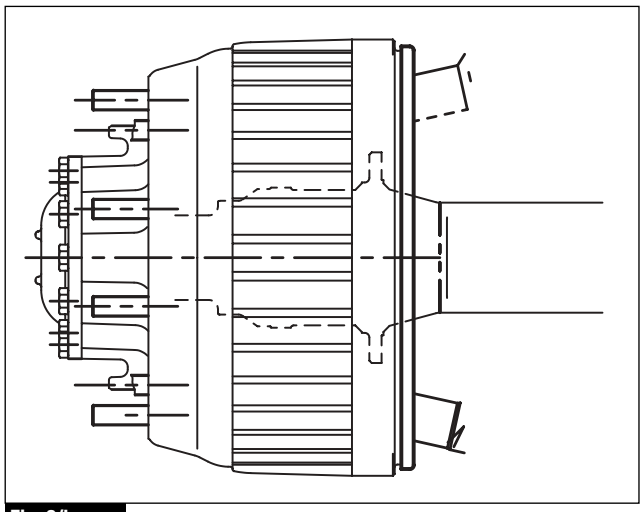

Fig. 3/b

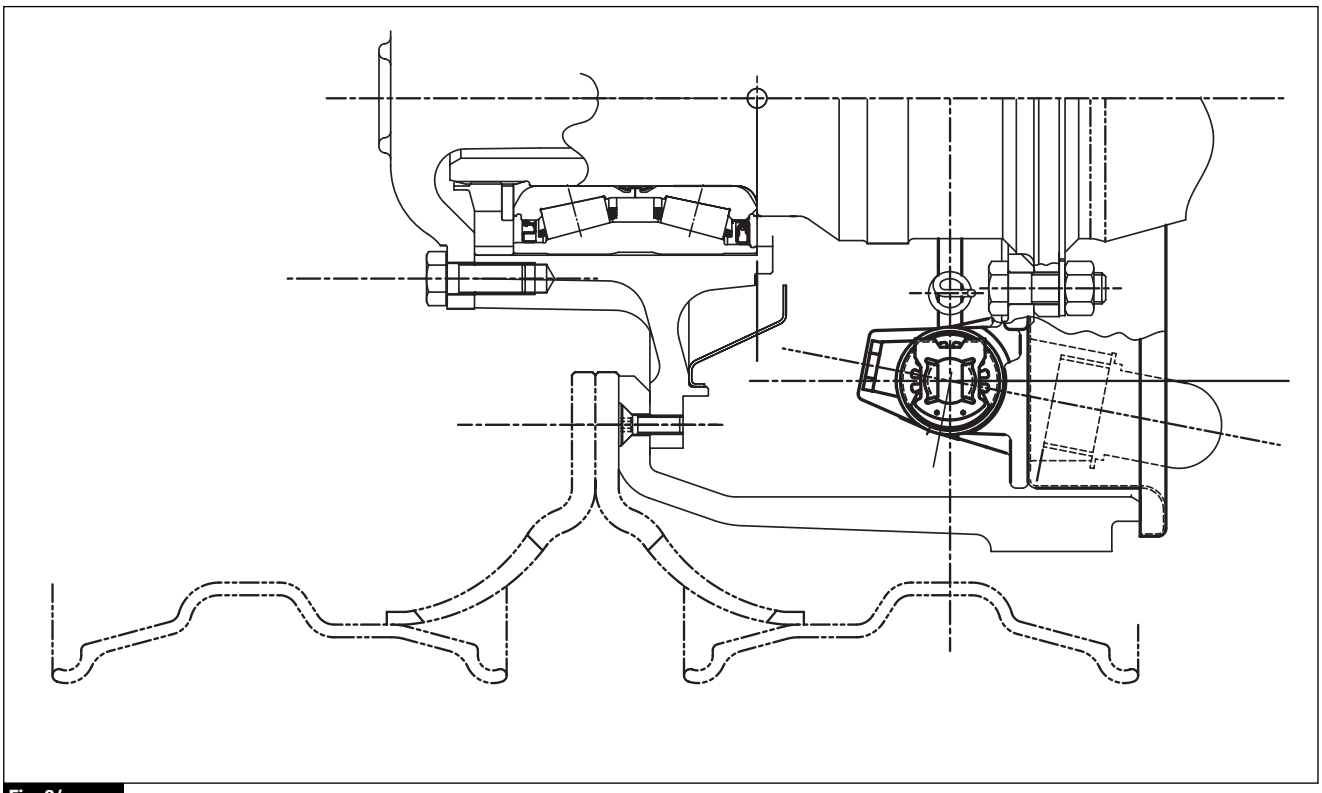

Fig. 3/c

# Secciones del freno de tambor de Cam (Sac-Arm)

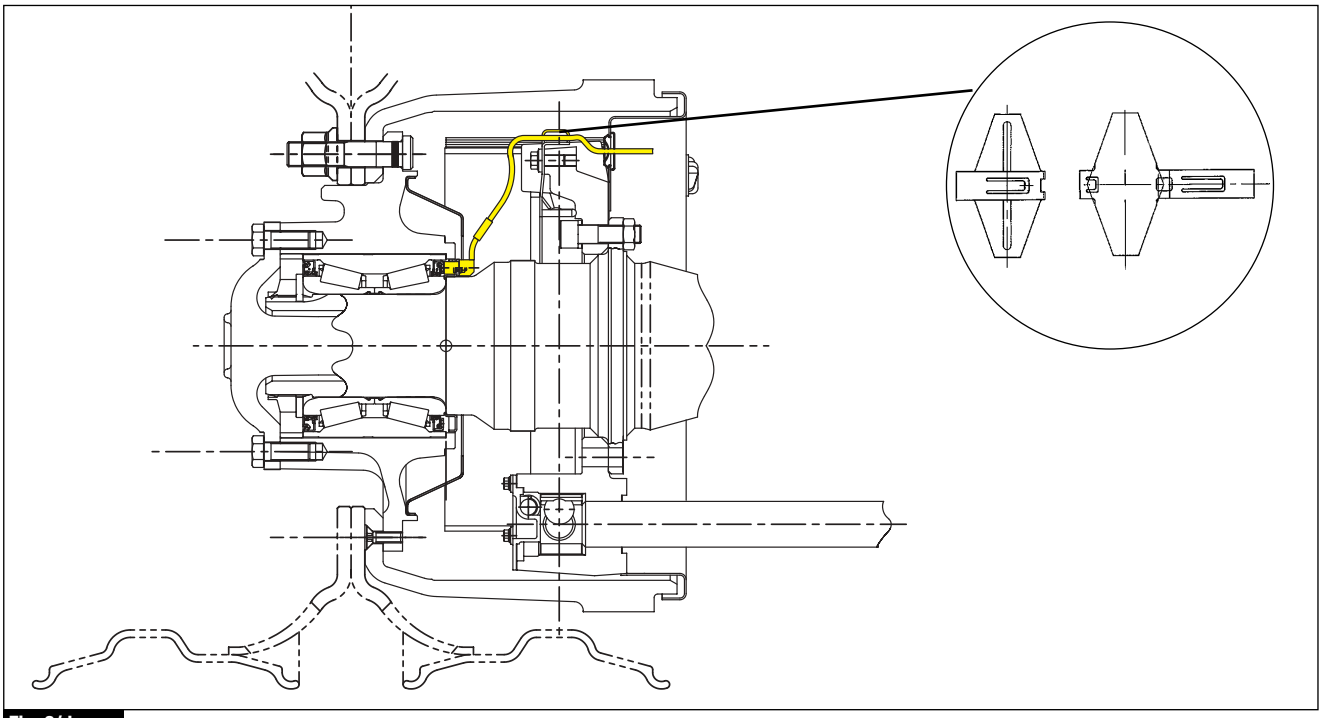

Fig. 3/d

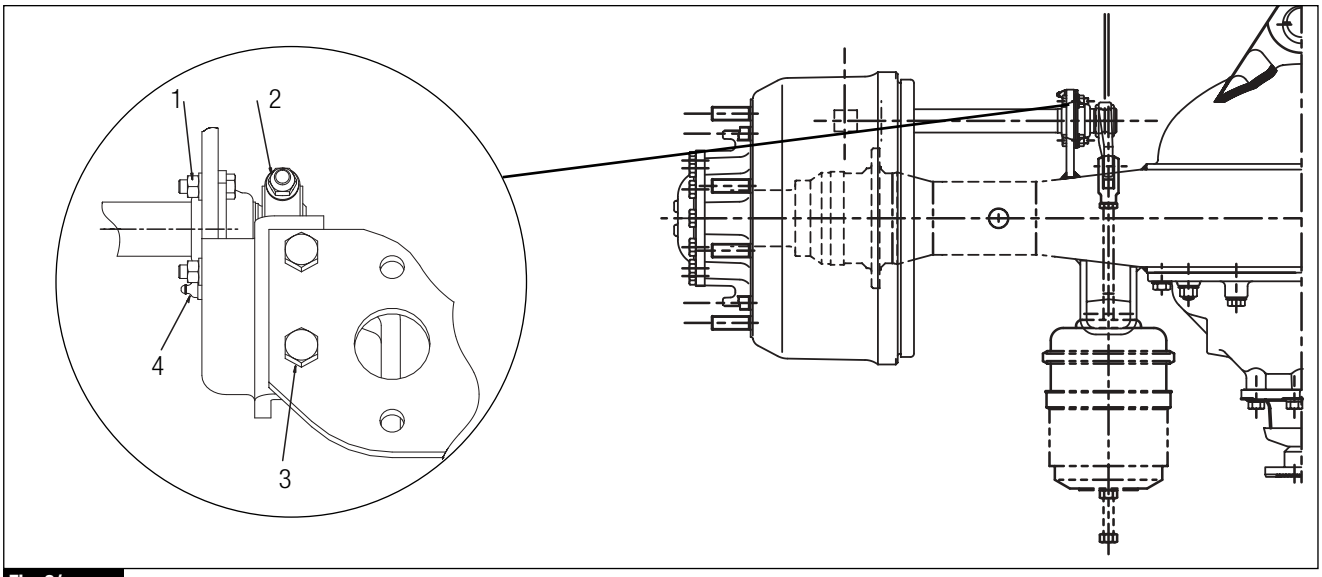


Fig. 3/e

**Fig. 3/e - Valores de referencia**

| Ref. | medida | |
|---|---|---|
| 1 | M10X1,5 | 50-70 Nm |
| 2 | M12X1,75 | 90-110 Nm |
| 3 | M16X2 | 270-300 Nm |
| 4 | M10X1 | 15-30 Nm |

# Mantenimiento

# 2


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19 Revisión del grupo completo - desmontaje
22 Comprobación de los componentes
22 Montaje del rodamiento (unit bearing)
23 Montaje de los componentes del grupo buje
25 Inspección del disco/tambor
26 Conjunto del extremo de rueda - freno de disco - con sensor ABS integrado en el rodamiento
29 Comprobación del funcionamiento del sensor abs
29 Sustitución del sensor taquimétrico para rueda fónica
30 Montaje final del freno de disco
30 Herramientas de servicio y Materiales de consumo

## Sustitución de los espárragos

A efectuar sólo tras haber solicitado y obtenido una autorización específica por el fabricante del vehículo.

La operación se hace necesaria, como consecuencia de un golpe, cada vez que uno o más espárragos se presentan deformados o dañados.

**Actuando en el vehículo:**
Comprobar que, en todos los casos en que está instalado el dispositivo de bloqueo del diferencial (diff. lock), éste haya de introducirse antes de quitar el semieje.

1. Extraiga la rueda y el tambor si es necesario.

2. Quitar el/los espárrago/s dañado/s.

**NOTA**: Comprobar a simple vista que los orificios de alojamiento de los espárragos no están dañados ni presentan grietas y deformaciones.

3. Introducir el/los espárrago/s nuevo/s en los alojamientos. Fig. 4

**NOTA**: Prestar atención a colocar el espárrago de manera que el lado del cabezal achaflanado esté dirigido hacia el eje del disco. (Fig. 5)

4. Interponer unos separadores entre la superficie plana del disco y la rosca del espárrago.

5. Enroscar una tuerca al espárrago y apretar hasta que el cabezal del espárrago esté en contacto con la superficie plana del freno (introducción efectuada).

**NOTA**: El separador debe ser más largo que el vástago del pasador. El par de apriete aplicado a la tuerca deberá cumplir con lo que se indica en las especificaciones técnicas suministradas por el fabricante del vehículo.

6. Desenroscar la tuerca y quitar los separadores.

7. Vuelva a colocar la rueda y el tambor si es necesario.

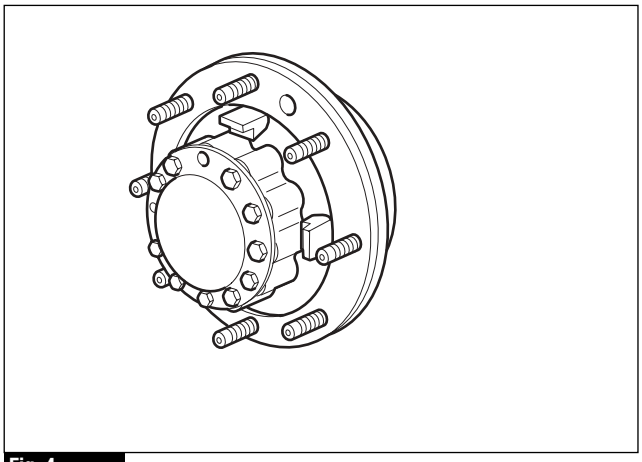


**Fig. 4**

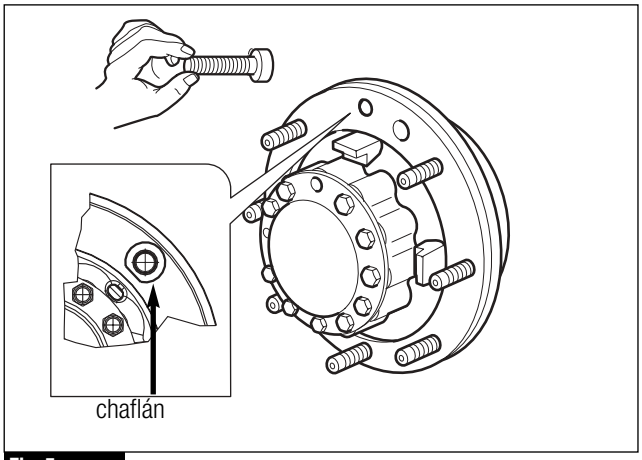



**Fig. 5**

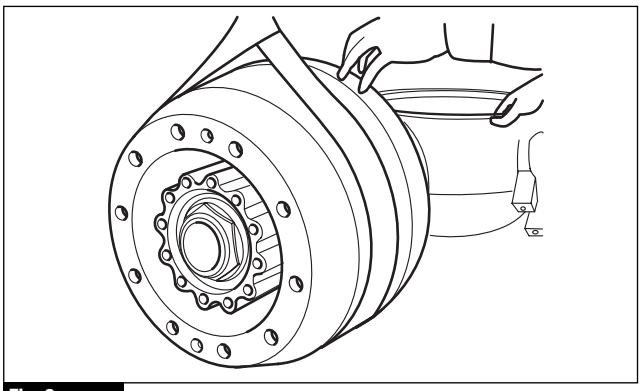


**Fig. 6**

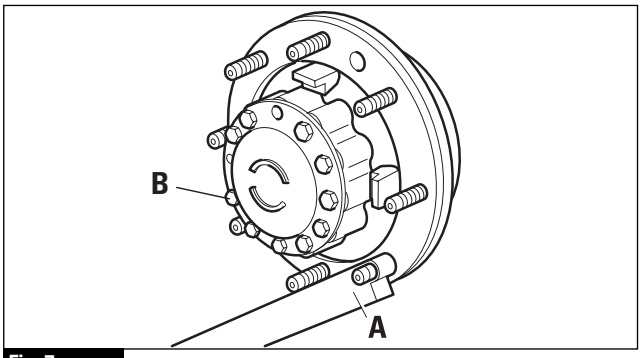



**Fig. 7**

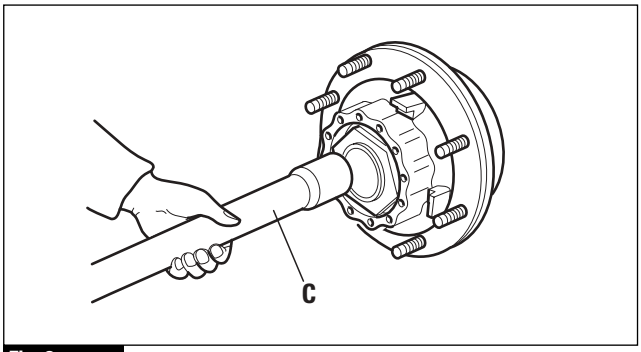



**Fig. 8**

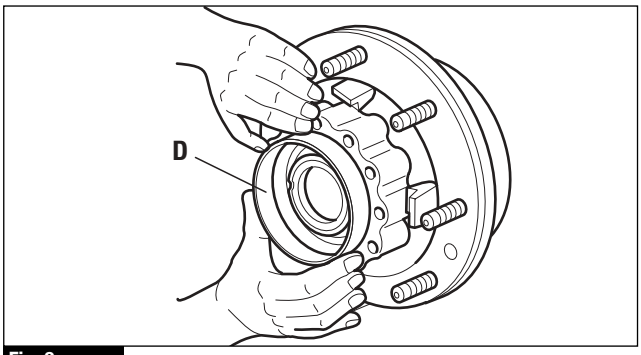



**Fig. 9**

## Revisión grupo completo

### Desmontaje

Levantar el vehículo respetando las normativas vigentes y las indicaciones suministradas por el fabricante.

**Actuando en el vehículo:**

Comprobar que, en todos los casos en que está instalado el dispositivo de bloqueo del diferencial (diff. lock), éste haya de introducirse antes de quitar el semieje.

1. Quitar la rueda.
2. Saque el tambor de freno o la pinza según corresponda. Si hay un freno de tambor, consulte el manual de mantenimiento correspondiente para ver cómo se extraen las zapatas de los frenos (fig. 6).
3. Controlar la limpieza y la integridad del área de intervención. De ser necesario, limpiar el grupo de incrustaciones y/o acumulaciones de suciedad.
4. Comprobar la ausencia de pérdidas de aceite y la integridad de las juntas.
5. Colocar un recipiente debajo del buje de rueda para recoger el aceite que se ha depositado en el alojamiento del buje durante el uso del vehículo. Para eliminar el aceite, respetar siempre las normativas vigentes en la materia.
6. Utilizar la herramienta (A) - **WET13** - para bloquear la rotación del grupo y desenroscar los tornillos (B) de conexión del semieje al buje. (Fig.7)
7. Quitar el semieje (C) y recuperar el aceite. (Fig. 8)
8. Quitar el anillo separador (D). (Fig. 9)

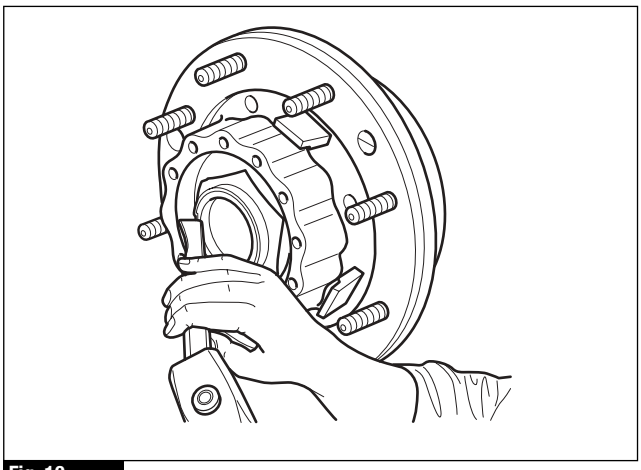


**Fig. 10**

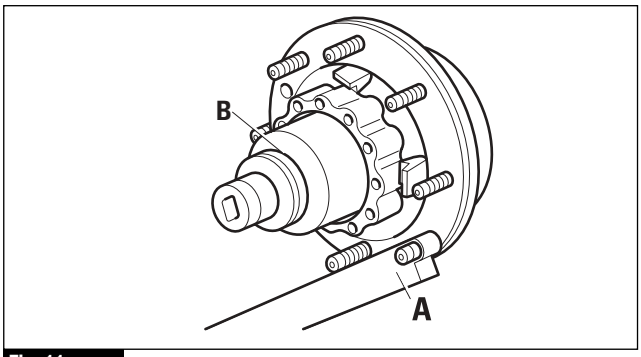



**Fig. 11**

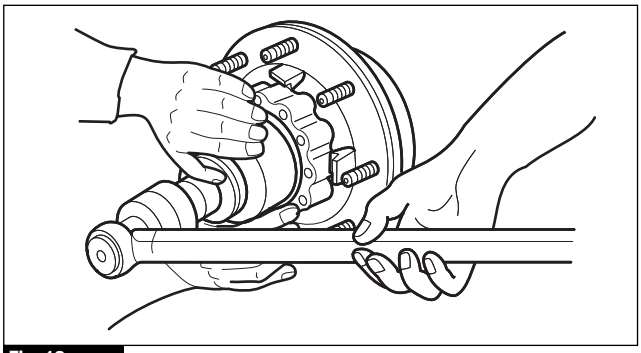


**Fig. 12**

9. Utilizando un punzón quitar la muesca del cuello de la tuerca de fijación del buje. (Fig. 10)

### ⚠ ADVERTENCIA

**Tenga cuidado para no dañar la rosca del eje estriado.**

10. Utilizar la herramienta (A) - **WET 13** - para bloquear la rotación del grupo y aplicar el casquillo hexagonal (B).

| Tipo | Herramienta de servicio |
|---|---|
| H | **WET 01** |
| R | **WET 02** |
| U | **WET 03** |

A la tuerca de fijación del buje. (Fig. 11) - Desenroscar con la llave dinamométrica y echar la tuerca quitada. (Fig. 12)

**NOTA**: El segundo operador deberá prestar atención a sujetar manualmente el casquillo durante la operación de desenroscado para que no dañe la rosca del puente.

11. Extraer la arandela de la ranura apropiada. (Fig. 13)

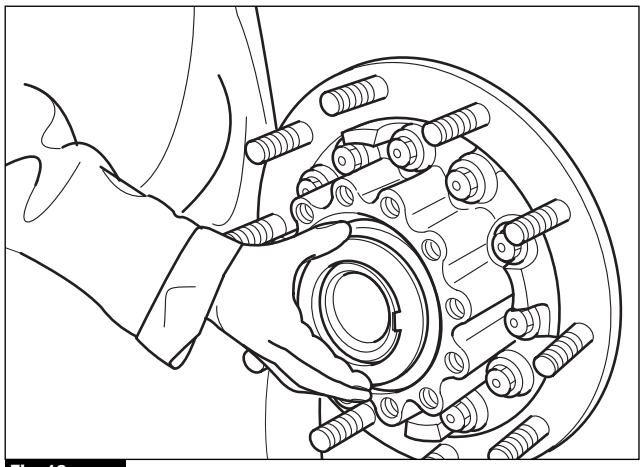


**Fig. 13**

12. Colocar el cubilete de protección de la rosca (B) - (Fig. 14)

| Tipo | Herramienta de servicio |
|---|---|
| H | **WET 04** |
| R | **WET 05** |
| U | **WET 06** |

**NOTA**: El uso de esta herramienta es indispensable ya que las operaciones de extracción / colocación del buje dañarían la rosca del puente, impidiendo el apriete correcto del buje, además garantiza la integridad del cartucho (unit bearing).

13. Utilizando cuerdas y ganchos de capacidad apropiada, enganchar el grupo disco/tambor - buje y, actuando con el polipasto, llevar las cuerdas en condiciones de ligera tensión. (Fig. 15)

    **NOTA**: El uso del polipasto debe ser realizado por personal experto y adiestrado, ya que una maniobra incorrecta efectuada con el mismo o una fijación incorrecta pueden ser causa de accidente grave.

14. Separar el grupo del buje del disco/tambor y colocarlo en el banco de trabajo. (Fig. 16)

15. • Donde corresponda, afloje los dos tornillos que fijan el tambor al cubo de la rueda y componentes separados.

    • Donde corresponda, afloje los 10 tornillos que sujetan el disco al cubo de la rueda y componentes separados.

    Colocar el buje en la prensa.

16. Colocar la herramienta (A)

| Tipo | Herramienta de servicio |
|---|---|
| H | **WET 07** |
| R | **WET 08** |
| U | **WET 09** |

en el buje, colocar el platillo (B) en la herramienta y, actuando con la prensa, extraer el paquete de rodamientos de su alojamiento. (Fig. 17)

### ⚠ PRECAUCIÓN

**El uso de la prensa implica el riesgo de pellizco / aplastamiento. Actuar con atención y respetando las normas de seguridad individual.**

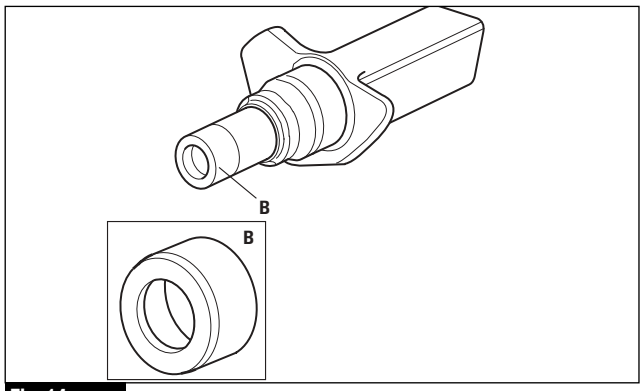


Fig. 14

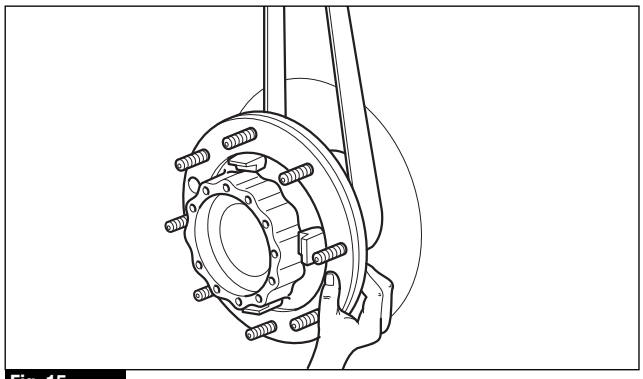


Fig. 15

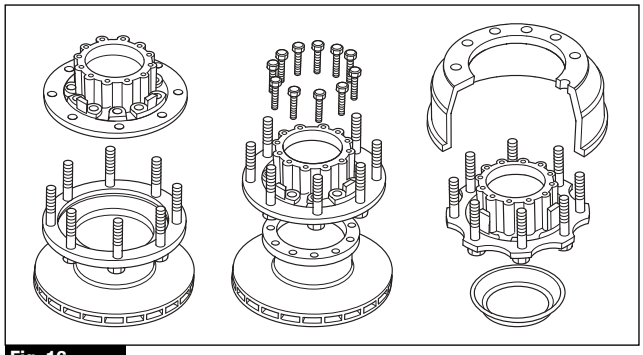


Fig. 16

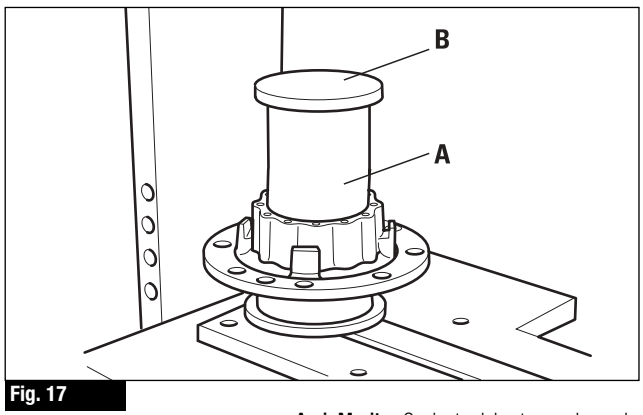


Fig. 17

## Comprobación de los componentes

Los componentes deberán limpiarse esmeradamente para permitir una mejor revisión y un montaje correcto, en especial efectuar, utilizando una rasqueta, la limpieza de las superficies de contacto del buje/semieje de los residuos de sellante. Los componentes desmontados durante la revisión deberán controlarse en su integridad; comprobar que no existen partes rayadas o dañadas antes de volver a instalarlos en el vehículo.

Cualquier condición que vuelva dudoso el buen funcionamiento de un componente deberá determinar la sustitución de la pieza. (Fig. 18)

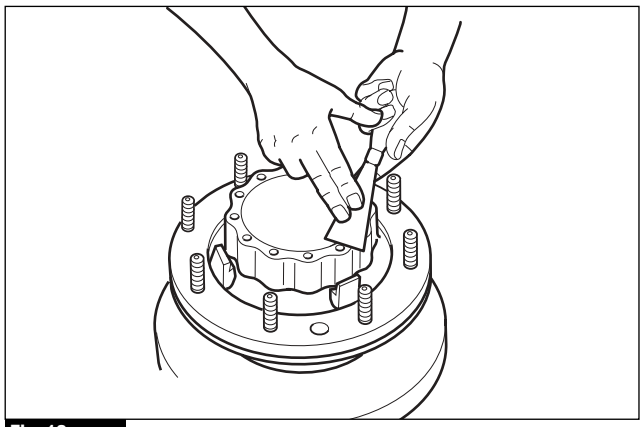


**Fig. 18**

## Montaje del rodamiento (unit bearing)

**En la prensa:**

1. Colocar un nuevo paquete de rodamientos (A) en el buje, utilizando la herramienta (B)

| Tipo | Herramienta de servicio |
|---|---|
| H | **WET 10** |
| R | **WET 11** |
| U | **WET 12** |

y efectuar la introducción del rodamiento, que ha de producirse con una carga de 40.000-100.000 N. (Fig. 19)

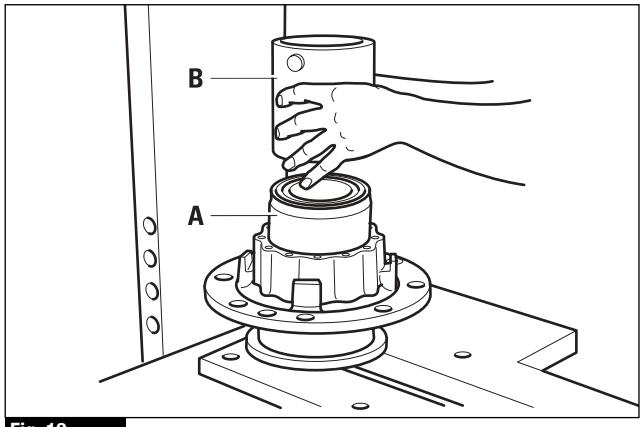



**Fig. 19**

### ⚠ ADVERTENCIA

**La herramienta debe presionar sobre el borde exterior del cartucho, para evitar graves daños al mismo. Comprobar que el rodamiento instalado está a tope en el apoyo lateral interior del buje.**

2. • Donde corresponda, fije y apriete los 2 tornillos que fijan el cubo de la rueda al tambor.
   • Donde corresponda, fije y apriete los 10 tornillos que sujetan el disco al cubo de la rueda (fig. 20).

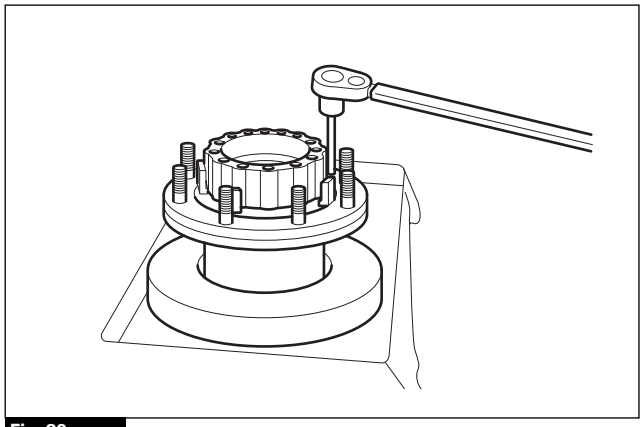


**Fig. 20**

**NOTA** : Consultar las fichas técnicas adjuntas para conocer los valores de los pares de apriete.

## Montaje de los componentes del grupo del buje

3. Utilizando las cuerdas y los ganchos del polipasto apropiado, enganchar y levantar el grupo. (Fig. 21)

### ⚠ PRECAUCIÓN

**El uso del polipasto deberá ser realizado por personal experto y adiestrado, ya que una maniobra incorrecta efectuada con el mismo o una fijación incorrecta pueden ser causa de un accidente grave.**

4. Colocar el cubilete (B) de protección de la rosca.

| Tipo | Herramienta de servicio |
|---|---|
| H | **WET 04** |
| R | **WET 05** |
| U | **WET 06** |

El uso de esta herramienta es indispensable ya que las operaciones de extracción / colocación del buje dañarían la rosca del puente, impidiendo el apriete correcto del buje en el puente, además garantiza la integridad del cartucho (unit bearing). (Fig. 22)

5. Lubricar con aceite la superficie del puente, del cubilete y del aro interior del paquete de rodamientos, para facilitar la colocación del grupo del buje.

6. Introducir el grupo del buje en el puente.

7. Quitar el cubilete de protección.

8. Introducir la arandela ranurada (A). (Fig. 23)

9. Utilice las herramientas:

| Tipo | Herramienta de servicio |
|---|---|
| H | **WET 01** |
| R | **WET 02** |
| U | **WET 03** |

para apretar una nueva tuerca de fijación (B) para el cubo de la rueda, gire el cubo mientras aprieta la tuerca al par especificado (fig. 24).

| Tipo | H | R | U |
|---|---|---|---|
| Par (Nm) | 815-990 | 775-950 | 834-1030 |

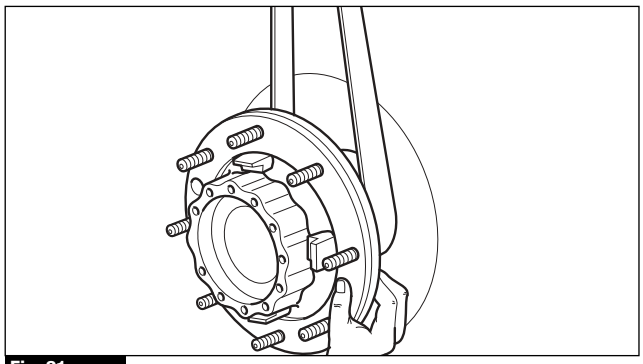


**Fig. 21**

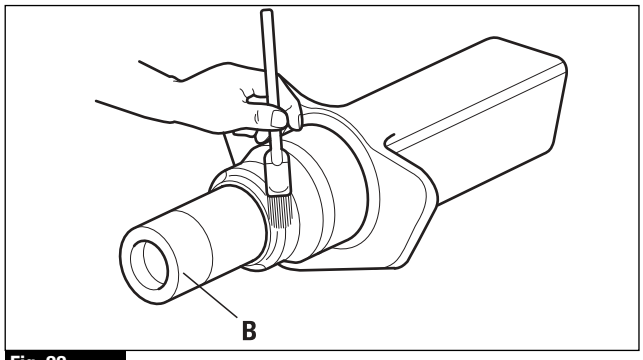



**Fig. 22**

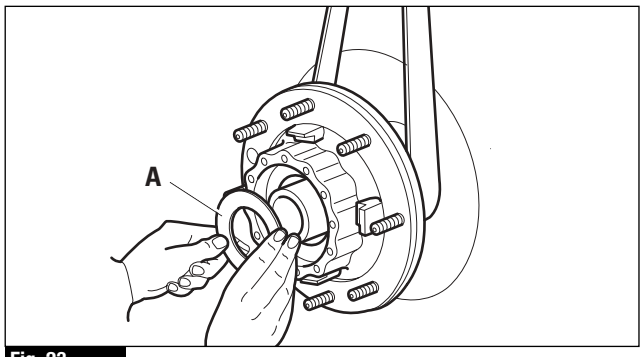



**Fig. 23**

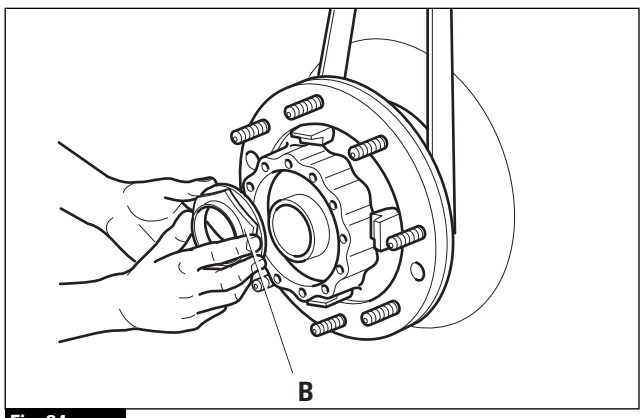



**Fig. 24**

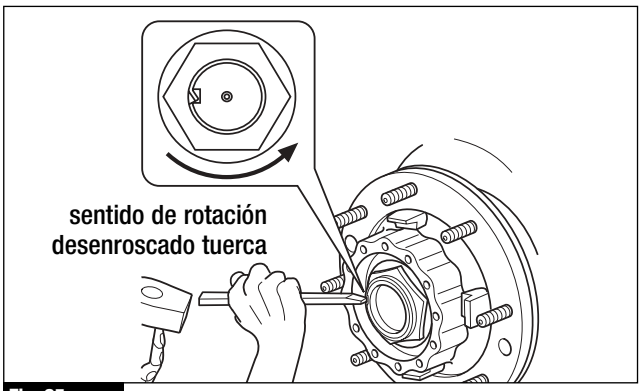



Fig. 25

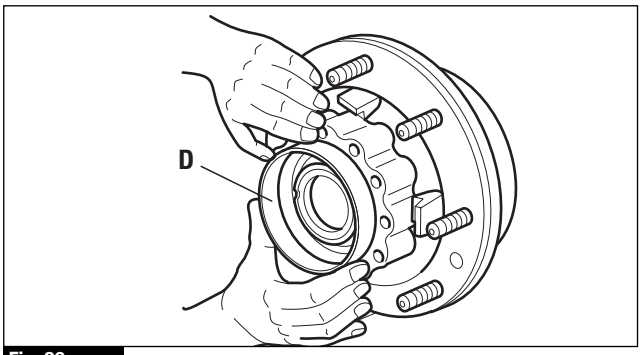



Fig. 26

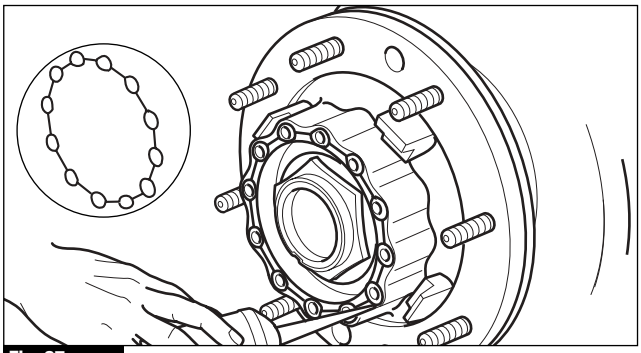


Fig. 27

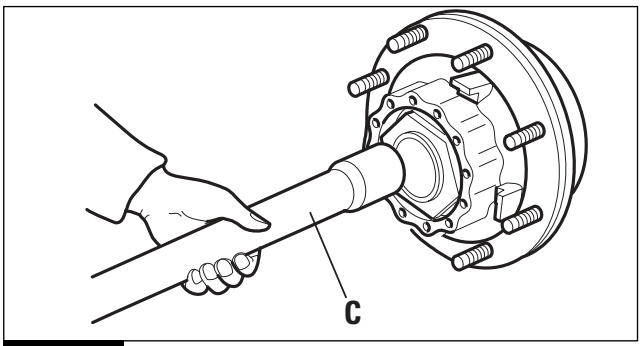
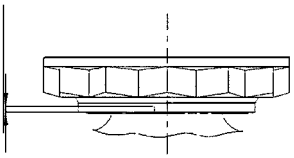



Fig. 28

10. Fije la tuerca en su sitio con los dientes de la tuerca con resalto al revés de la dirección en que se gira la tuerca para desatornillarla (fig. 25).



**Profundidad de la muesca:**
**≥ 1/3 - ≤ 2/3 longitud del cuello**

**NOTA**:
Tenga cuidado para no dañar la rosca del eje estriado.

11. Introducir el anillo separador D (Fig. 26)

**NOTA**:
Montar el anillo separador y controlar que existe una holgura de 0/-0,145 mm entre el lado exterior del buje de rueda y el lado del separador, efectuando dos controles a 180º.

12. Asegúrese de que las superficies de contacto del cubo y el palier están completamente limpias. (Fig. 27)

**NOTA**: Aplicar el sellante alrededor de los orificios de los tornillos como se indica en la figura, formando un cordón de 3 mm de diámetro aproximadamente. Una distribución correcta del sellante impide que, durante el uso del vehículo, se produzcan pérdidas de aceite del grupo del puente, determinando una deterioración rápida del grupo mismo.

13. Instalar el semieje (C). (Fig. 28)

**NOTA**: El semieje deberá instalarse a los 15 minutos de la aplicación del sellante; en caso contrario, el sellante deberá quitarse y sustituirse.

14. Utilizar la herramienta **WET13** (A) para impedir la rotación del grupo, apretar los tornillos de conexión del semieje al buje al par prescrito:

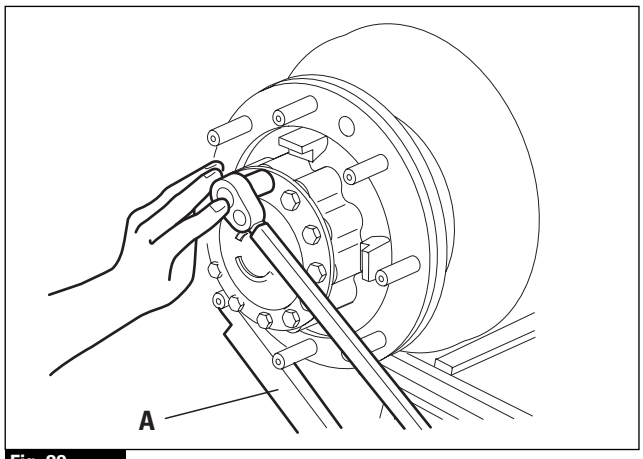



**Fig. 29**

**Pares de apriete**

| Tipo | tornillo | clase | | |
|---|---|---|---|---|
| H | M12X1,5 | 12.9 | 60(Nm)+55°- 65° | |
| R | M12X1,5 | 12.9 | 60(Nm)+55°- 65° | |
| U | M16X2 | 10.9 | | 235-289(Nm) |

**NOTA**: El apriete de los tornillos deberá efectuarse respetando la secuencia representada en la figura, para garantizar un apriete uniforme y, por consiguiente, la estanqueidad del sellante. (Fig. 30)

15. Volver a montar el grupo del freno. Para el procedimiento tomar como referencia el fabricante del freno.
16. Volver a montar la rueda.
17. De ser necesario, restablecer el nivel del aceite en el puente.
18. Desactivar el bloqueo del diferencial activado previamente y seguir las instrucciones para la regulación del funcionamiento del interruptor del bloqueo del diferencial (Consultar el manual MM-0140)

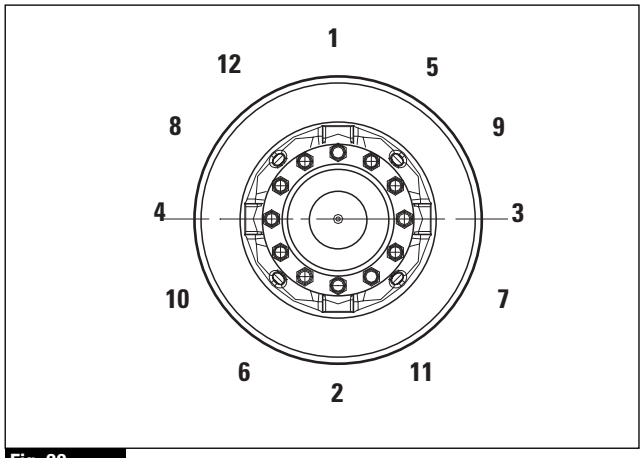



**Fig. 30**

## Inspección del disco/tambor del freno

Para los procedimientos de mantenimiento del disco/tambor, tomar como referencia el manual del freno instalado en el vehículo.

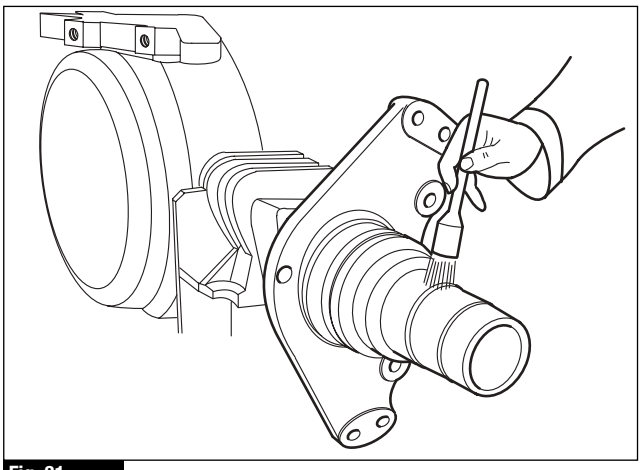


**Fig. 31**

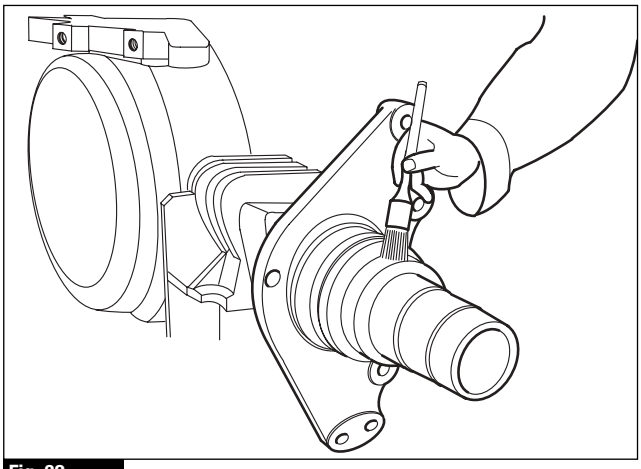


**Fig. 32**

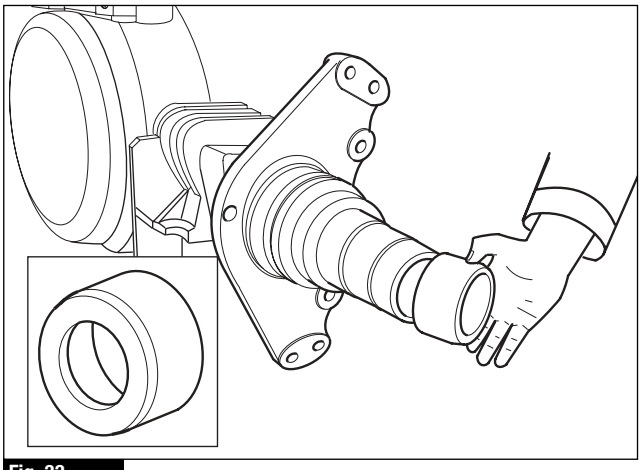


**Fig. 33**

## Conjunto del extremo de rueda - freno de disco - con sensor ABS integrado en el rodamiento

### Montaje del anillo del sensor ABS

1. Engrasar esmeradamente la superficie del manguito para facilitar la introducción del buje. (Fig. 31)
2. Seguir engrasando el collarín del manguito en el que se aloja el anillo del sensor ABS. (Fig. 32)
3. Colocar el cubilete de protección de la rosca en el extremo del puente. (Fig. 33)

| Tipo | Herramienta de servicio |
|---|---|
| H | **WET 04** |
| R | **WET 05** |
| U | **WET 06** |

4. Aplicar el anillo con el sensor ABS en el introductor - **WET 14**

**NOTA**: En el cuadro se muestra el acoplamiento perfecto del sensor / herramienta. (Fig. 34)

5. Introducir en el manguito el introductor dotado de anillo con sensor ABS. (Fig. 35)

**NOTA**: Al aplicar el anillo, comprobar que el sensor ABS está colocado en el eje vertical del puente. Una posición distinta podría provocar graves daños al cable del sensor.

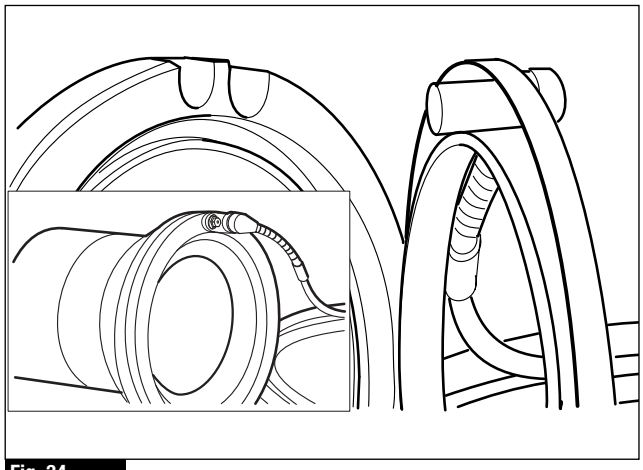


**Fig. 34**

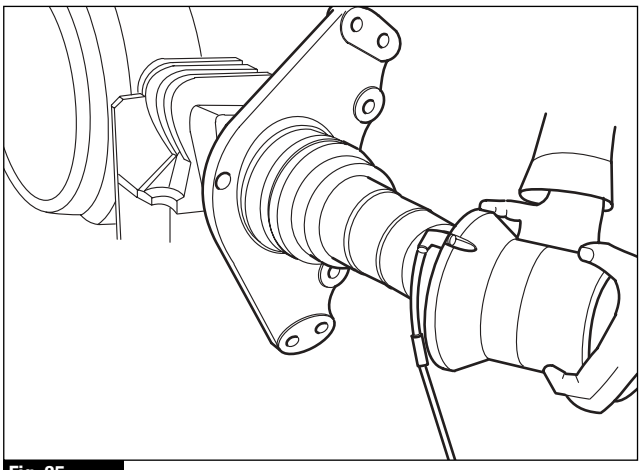


**Fig. 35**

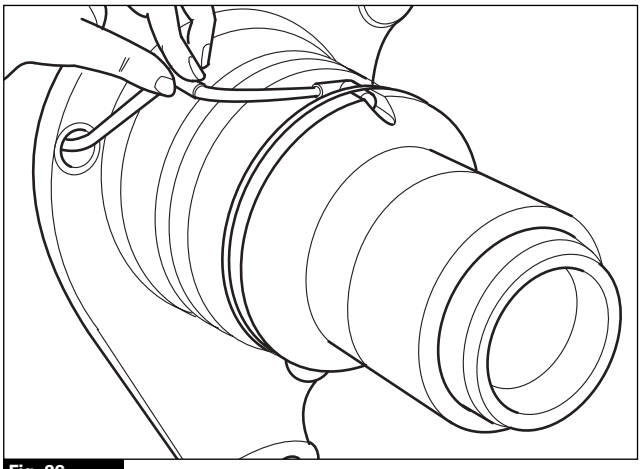


**Fig. 36**

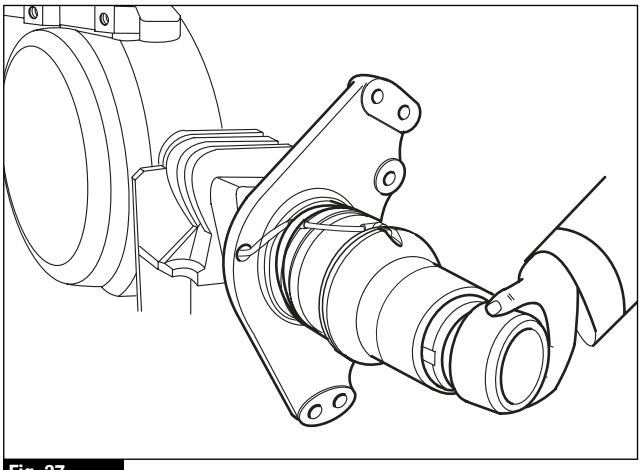


**Fig. 37**

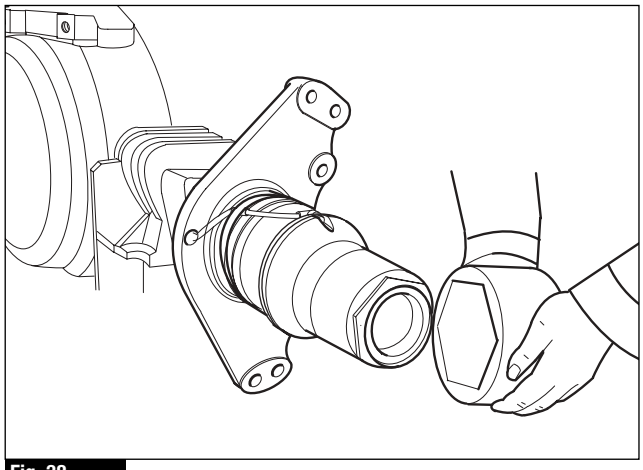


**Fig. 38**

6. Hacer pasar el cable del sensor a través del orificio preparado. (Fig. 36)
7. Quitar el cubilete de protección de la rosca. (Fig. 37)
8. Colocar a tope el introductor y el anillo correspondiente utilizando la tuerca de apriete del buje. (Fig. 38)

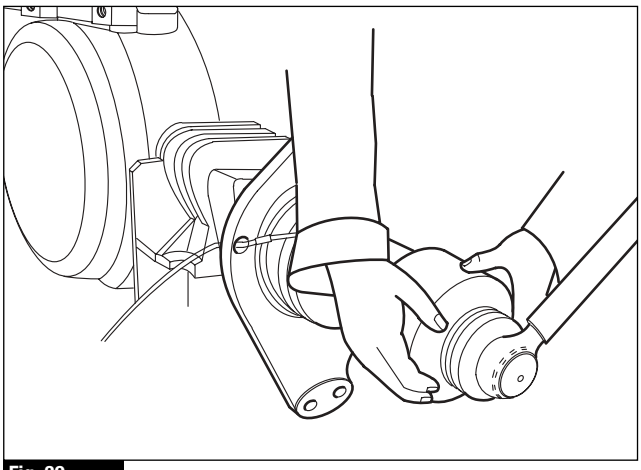


**Fig. 39**

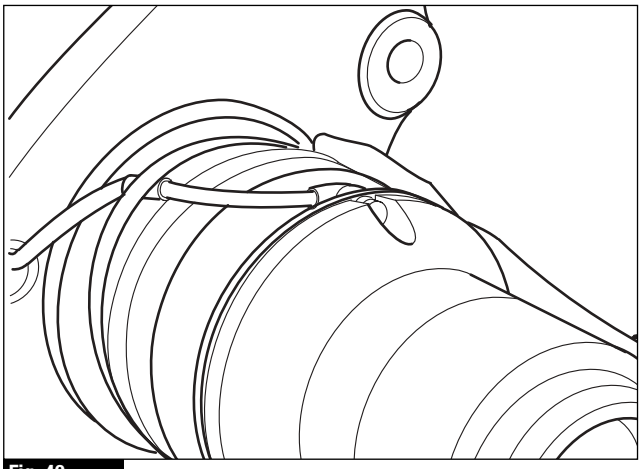


**Fig. 40**

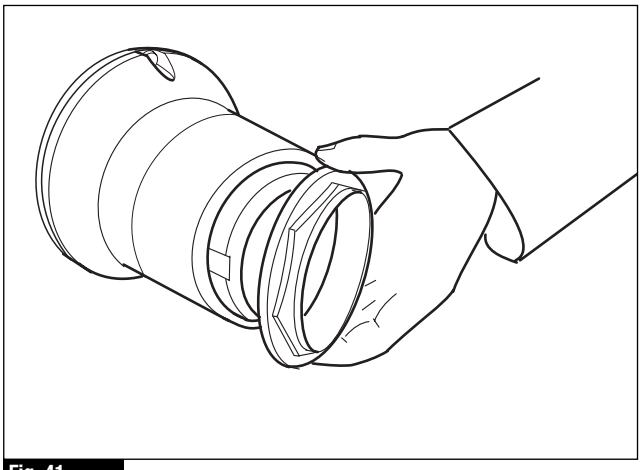


**Fig. 41**

9. Enroscar la tuerca de apriete del buje a través del casquillo hexagonal apropiado apretando con llave dinamométrica a un par de 300 Nm aproximadamente. (Fig. 39)
10. Bloquear el cable del sensor ABS, aplicando una abrazadera metálica y prestando atención a apoyarla en el tubo anti-aplastamiento de bronce. Durante esta operación el tubo de bronce se colocará entre el orificio oportuno y el sensor, sin tensarlo. (Fig. 40)
11. Quitar la tuerca (Fig. 41) y el introductor. (Fig. 42).

    Colocación final del anillo del sensor ABS. (Fig. 43)

**NOTA**: Para las operaciones de ensamblaje siguientes del lado rueda, seguir el procedimiento general ilustrado previamente en la sección Mantenimiento General.

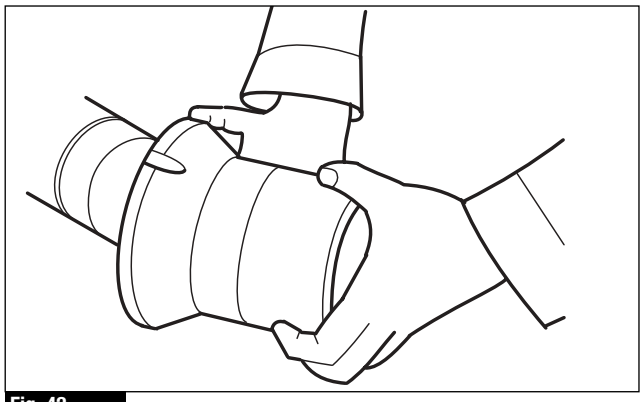


**Fig. 42**

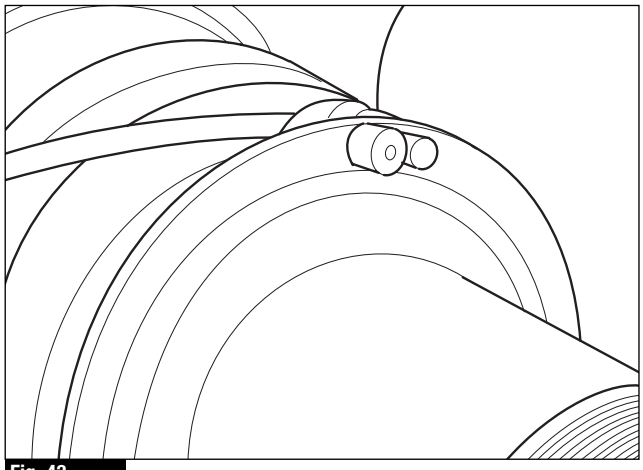


**Fig. 43**

## Comprobación del funcionamiento del sensor ABS

Comprobar el funcionamiento correcto del sistema ABS según las indicaciones del fabricante. - (Fig. 44)

## Sustitución del sensor taquimétrico para rueda fónica integrada en el disco en el vehículo

**En el vehículo:**

1. Acceder por el lado interior del buje y desempalmar el conector (A) del sistema ABS.
2. Extraer el sensor (B) del alojamiento.
3. Quitar la jaula de cobre (C) de fijación al buje. (Fig. 45)
4. Comprobar la limpieza y la integridad del sensor y de la jaula y, de ser necesario, sustituirlos.
5. Instalar la jaula de cobre (C). (Fig. 46)
6. Engrase el sensor con lubricante anticorrosión e introduzca el sensor hasta el que tope contra la rueda dentada. Gire el cubo de la rueda de modo que el sensor quede debidamente colocado.
7. Comprobar el posicionamiento correcto del extremo del sensor en la rueda fónica (véanse las especificaciones del fabricante del sensor).
8. Empalmar el conector al sistema ABS.

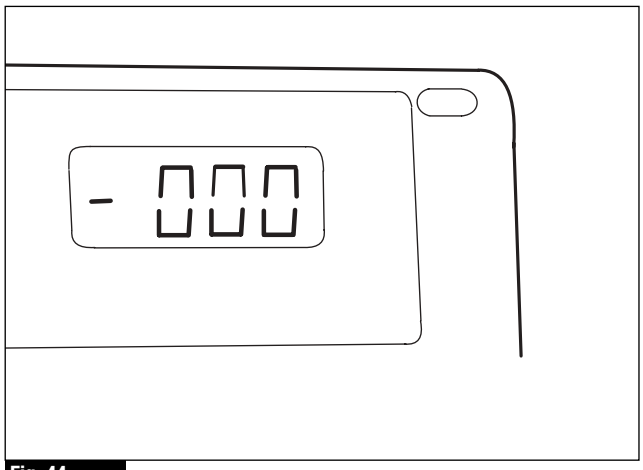


**Fig. 44**

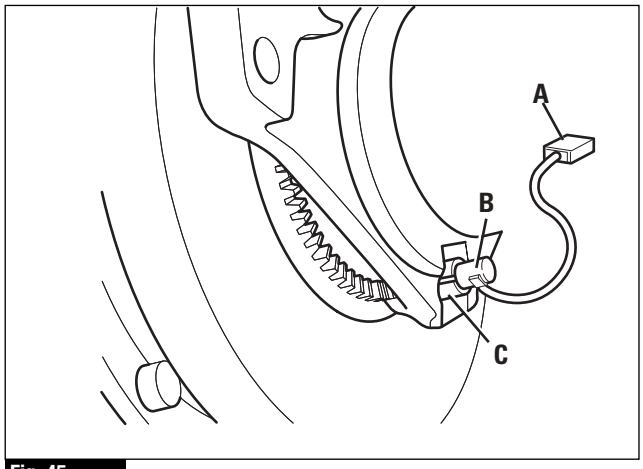



**Fig. 45**

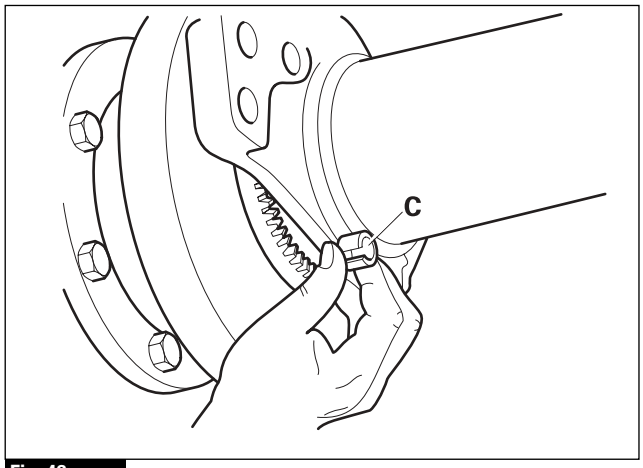



**Fig. 46**

## Montaje final del freno de disco

Volver a montar el grupo del freno y apretar los tornillos de fijación con llave dinamométrica (Fig. 47).

Par de apriete según el tamaño del tornillo: consulte las especificaciones en la página 7.

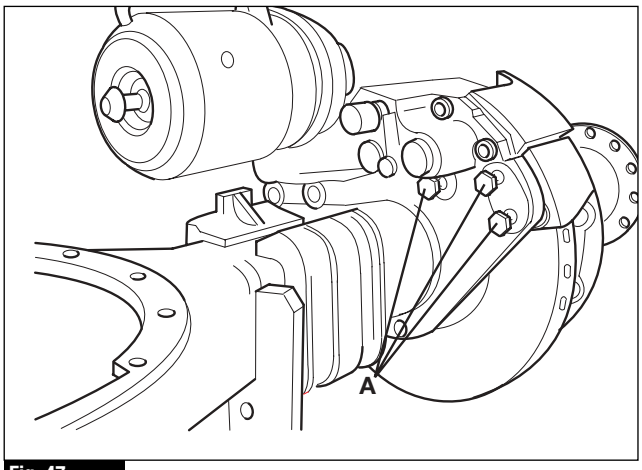



**Fig. 47**

## Herramientas de servicio

| **Tipo** | **H** | **R** | **U** |
|---|---|---|---|
| **Descripción** | **Herramienta** | **Herramienta** | **Herramienta** |
| Llave para tuerca del buje | **WET 01** | **WET 02** | **WET 03** |
| Palanca de reacción | **WET 13** | **WET 13** | **WET 13** |
| Cubilete | **WET 04** | **WET 05** | **WET 06** |
| Herramienta de extracción del rodamiento | **WET 07** | **WET 08** | **WET 09** |
| Herramienta de introducción del rodamiento | **WET 10** | **WET 11** | **WET 12** |
| Herramienta de introducción del sensor ABS | **-** | **-** | **WET 14** |

## Materiales de consumo

| **Descripción** | **Código** |
|---|---|
| Sellante | 2297-G-5259 |

# Búsqueda de averías

3

pg. 32 Búsqueda de averías

# **3** Búsqueda de averías

A continuación se encuentra la tabla correspondiente a las condiciones de avería más comunes, relativas al conjunto del extremo de rueda.

| Estado | Causas posibles | Comprobaciones | Operaciones |
|---|---|---|---|
| Pérdida del aceite del buje | Rodamiento del lado rueda dañado | Pérdidas de aceite del buje hacia el exterior. | Quitar el conjunto del extremo de rueda y sustituir el rodamiento y los otros posibles componentes dañados. |
| Pérdida de aceite entre el cabezal del semieje y el buje | Choques/sellante no distribuido correctamente en una revisión anterior. | | Quitar el semieje y restablecer correctamente la capa de sellante. Comprobar la integridad y el buen funcionamiento del semieje y del buje. |
| Holgura excesiva del buje | Aflojamientos<br>Cojinete defectuoso | Controlar:<br>- tuerca del buje;<br>- presencia del anillo separador | Comprobar la integridad del cartucho. Enroscar la tuerca de apriete en el buje. Efectuar el remachado correcto.<br>Forme correctamente la muesca de frenado de la tuerca con resalto. Cambie los componentes según corresponda. |
| Señal anómala del sensor ABS | Impulsos anómalos | Atenerse a lo requerido por las especificaciones del fabricante del sensor. | Fije las piezas nuevas según corresponda. |

**Meritor Heavy Vehicle Braking Systems**
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South Wales NP44 3XU - U.K.
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Fax: +44 (0) 1633 834191
www.arvinmeritor.com

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M-graph - MM1114

ArvinMeritor

| LAYOUT NO. | |
|---|---|

SIM.PARTS

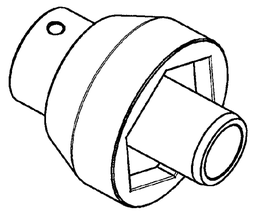
INTERPRET DRAWING PER A.O. ENG. STDS. DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER A.O.DRM STD Z-001-2
FORGING TOLERANCES +1.6-0.8 DRAFTS 7°±1°
OTHERWISE TOLS.±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS,FINS,FLASH & PROJECTIONS.

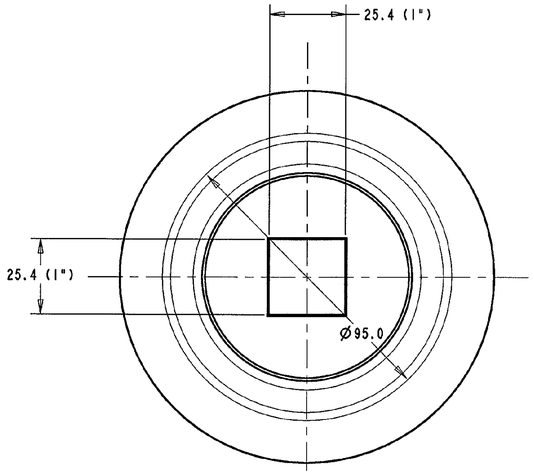
FINISH ALLOWANCE

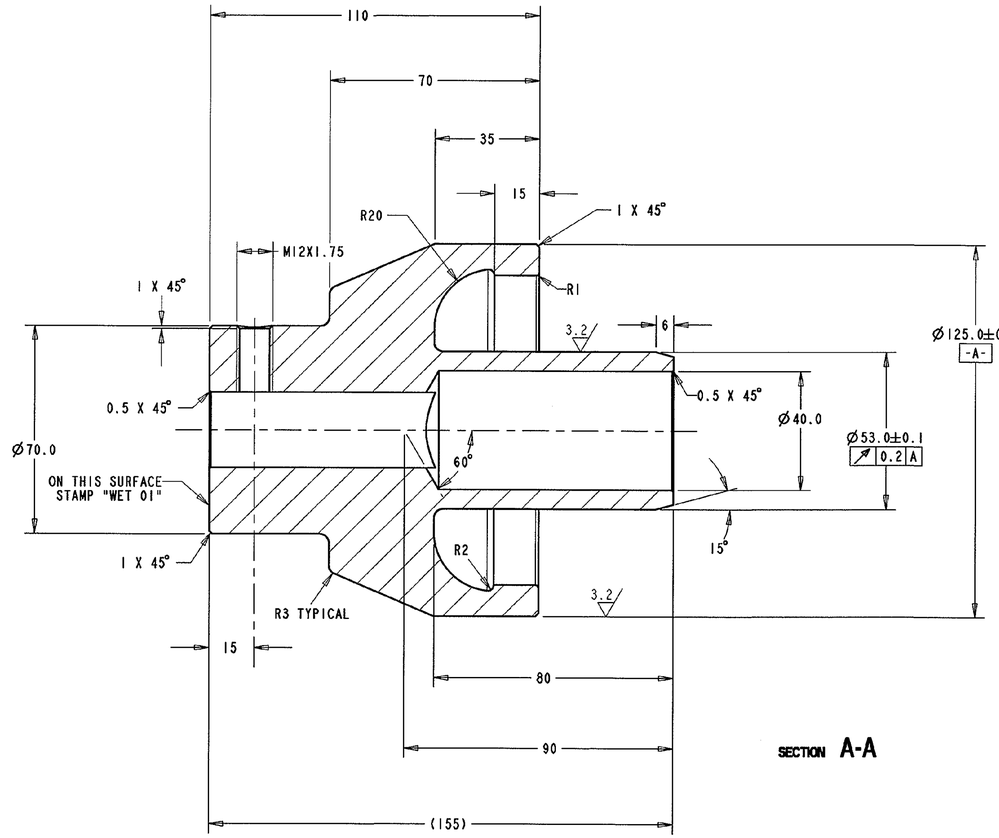
| | | |
|---|---|---|
| F1 | = | 0.8 |
| F2 | = | 1.6 |
| F3 | = | 2.4 |
| F4 | = | 3.2 |
| F5 | = | 4.0 |
| F6 | = | 4.8 |
| F8 | = | 6.4 |
| F10 | = | 8.0 |

REVISIONS

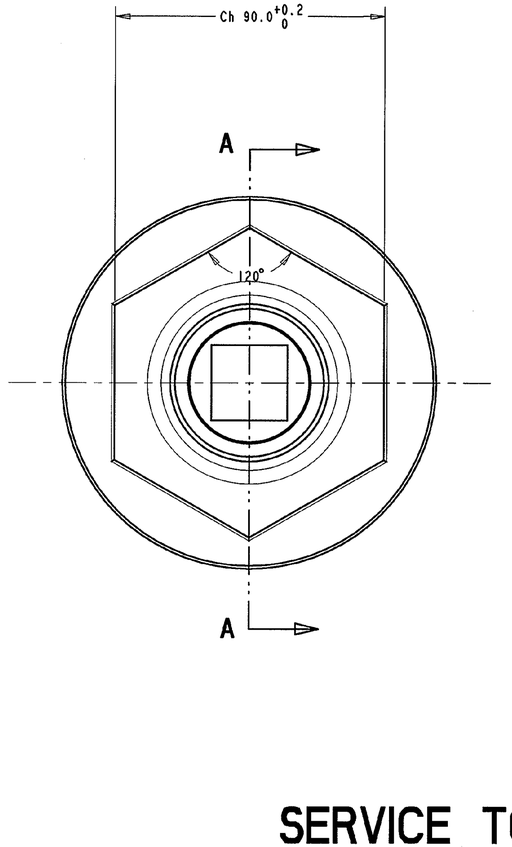
| | | | |
|---|---|---|---|
| A | 3256-L-1104 RELEASED FOR TOOLING | 70388 07 OCT 99 | M.P. M.L. |






SECTION A-A




# SERVICE TOOL
# REF. - WET 01

| | | | |
|---|---|---|---|
| APPLY SPECIFIED MERITOR MARKINGS PER A.O. ENGINEERING STANDARD D-004 | THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITOUT THE PRIOR WRITTEN PERMISSION OF MERITOR. | MATERIAL A.O. SPEC. B-47 | |
| 1 2 3 4 IN. 10THS. 10 20 30 40 50 60 70 80 90 100MM | WEIGHT RGH./FIN. 5.349 KGS | PROCESS A.O. SPEC. 21-CW | |
| | INQUIRY NO. | C.R./T.E. NO. APP. NO. RCVC-704 | |

| APPROVED PROJ.ENG. | MATERIAL | SPECIAL | DRAWN BY | CHECKED BY | 3RD ANGLE PROJECTION |
|---|---|---|---|---|---|
| | | | M.LUPI 8-JUL-99 | M.PONTANARI 8-JUL-99 | |

| ORIGINAL FOR | SCALE | DESIGN CONTROL GROUP | PART NO. |
|---|---|---|---|
| H-127E | 1:1 | CAMERI | |

| 70388 | PART/DWG NO. 3256-L-1104 | 3923 |
|---|---|---|
| RELEASE | NAME WRENCH FOR WHEEL HUB BEARING ADJUSTMENT NUT | ENG.DESC. CODE |
| | MERITOR. METRIC | |

DO NOT CHANGE MANUALLY
SOLID MODELING CENTER

| LAYOUT NO. | |
|---|---|
| SIM. PARTS | |

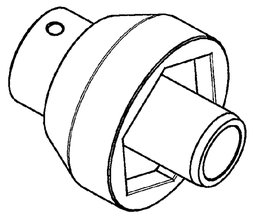
INTERPRET DRAWING PER A.O. ENG. STDS. DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER A.O.DRM STD Z-001-2
FORGING TOLERANCES +1.6-0.8 DRAFTS 7°±1°
OTHERWISE TOLS.±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS,FINS,FLASH & PROJECTIONS.

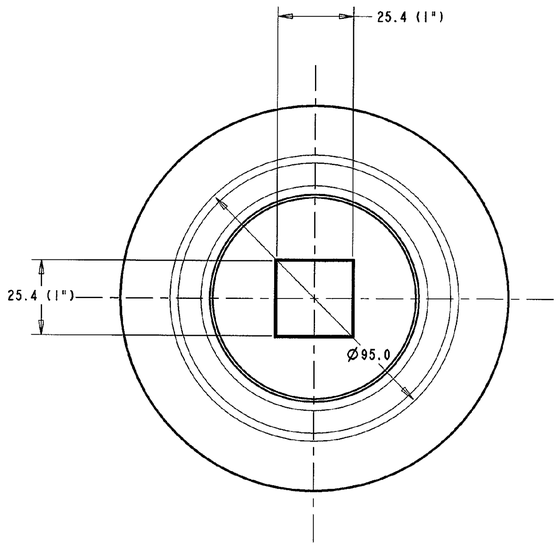
FINISH ALLOWANCE

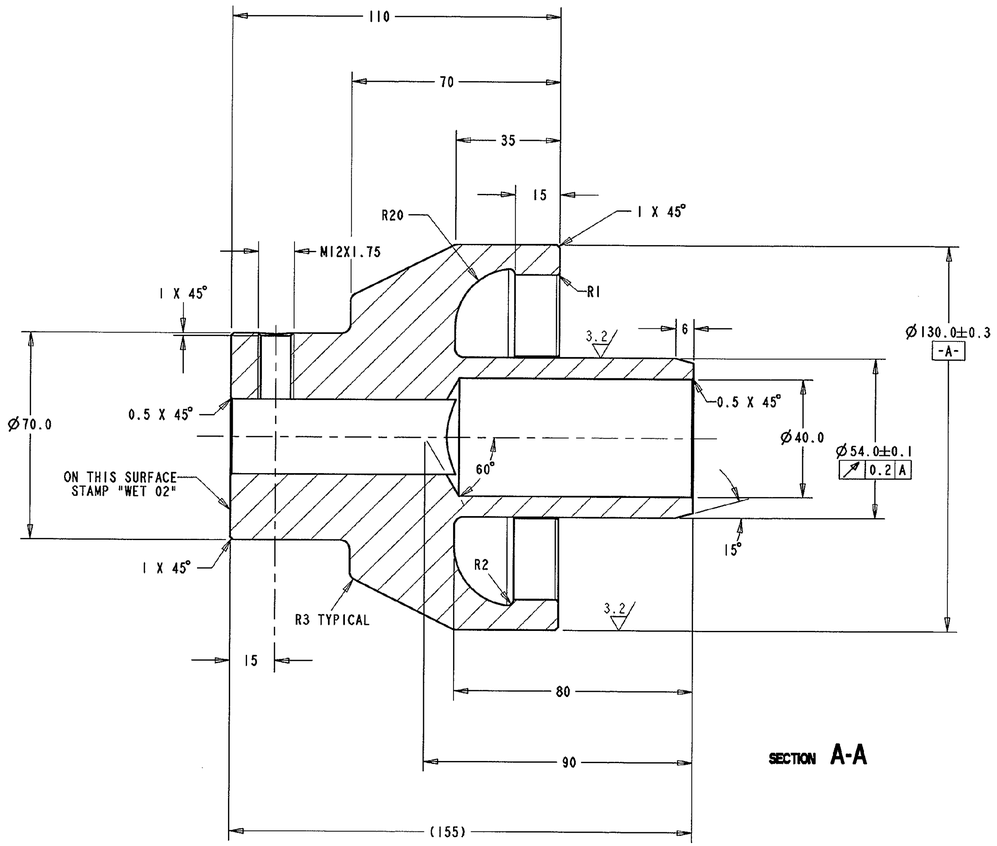
F1 = 0.8
F2 = 1.6
F3 = 2.4
F4 = 3.2
F5 = 4.0
F6 = 4.8
F8 = 6.4
F10 = 8.0

REVISIONS

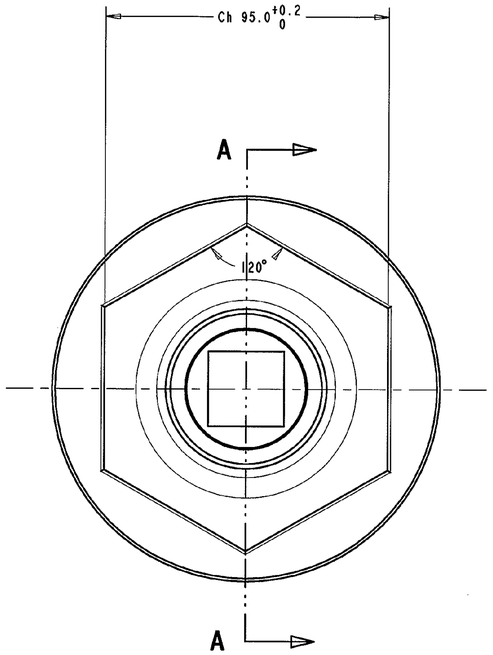
| | | | |
|---|---|---|---|
| A | 3256-M-1105 RELEASED FOR TOOLING | 70388 07 OCT 99 | M.P. M.L. |






SECTION A-A




# SERVICE TOOL
# REF. - WET 02

| | | | |
|---|---|---|---|
| APPLY SPECIFIED MERITOR MARKINGS PER A.O. ENGINEERING STANDARD D-004 | THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITOUT THE PRIOR WRITTEN PERMISSION OF MERITOR. | MATERIAL: A.O. SPEC. B-47 | 70388 RELEASE | PART/DWG NO. 3256-M-1105 | 3923 ENG. DESC. CODE |
| | | PROCESS: A.O. SPEC. 21-CW | | NAME: WRENCH FOR WHEEL HUB BEARING ADJUSTMENT NUT | |
| 1 2 3 4 IN. 10THS. 10 20 30 40 50 60 70 80 90 100MM | WEIGHT RGH./FIN. 5.563 KGS | INQUIRY NO. | APPROVED: PROJ.ENG. / MATERIAL / SPECIAL | DRAWN BY: M.LUPI 8-JUL-99 | CHECKED BY: M.PONTANARI 8-JUL-99 | 3RD ANGLE PROJECTION | MERITOR. METRIC |
| | | C.R./T.E. NO. APP. NO. RCVC-738 | ORIGINAL FOR: R-147E | SCALE: 1:1 | DESIGN CONTROL GROUP: CAMERI | PART NO. |

DO NOT CHANGE MANUALLY
SOLID MODELING CENTER

| | LAYOUT NO. | |
|---|---|---|

SIM.PARTS

INTERPRET DRAWING PER A.O. ENG. STDS. DRM.
UNLESS OTHERWISE SPECIFIED:
- ALL DIMENSIONS IN MILLIMETERS.
- CASTING TOLERANCES PER A.O.DRM STD Z-001-2
- FORGING TOLERANCES +1.6-0.8 DRAFTS 7°±1°
- OTHERWISE TOLS.±0.40 ON 2-PLACE DECIMALS
  ±0.80 ON 1-PLACE DECIMALS
  ±1° ON ANGULAR DIMENSIONS
- ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
- BREAK ALL SHARP EDGES.
- REMOVE ALL BURRS,FINS,FLASH & PROJECTIONS.

FINISH ALLOWANCE

| | |
|---|---|
| F1 | 0.8 |
| F2 | 1.6 |
| F3 | 2.4 |
| F4 | 3.2 |
| F5 | 4.0 |
| F6 | 4.8 |
| F8 | 6.4 |
| F10 | 8.0 |

REVISIONS

| | | | |
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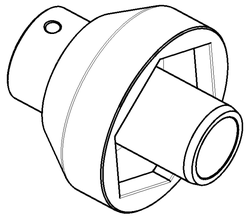
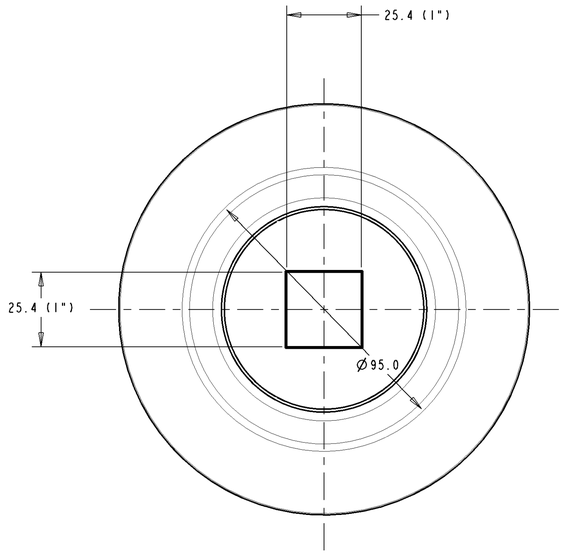
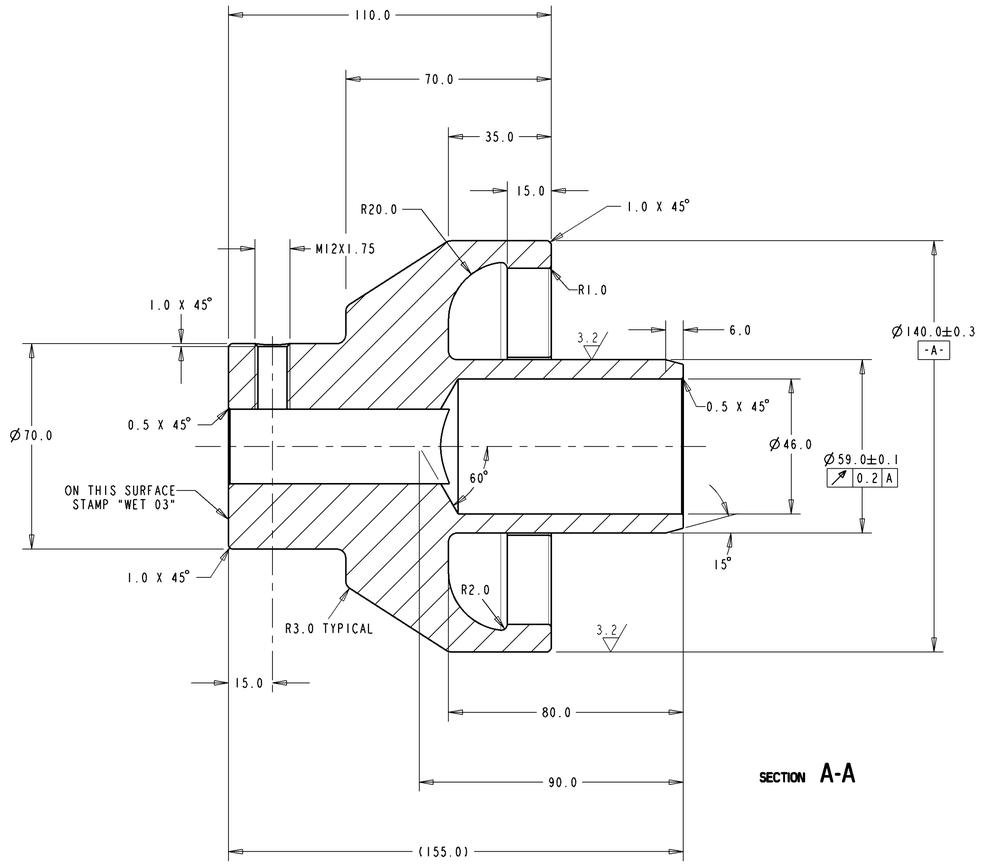
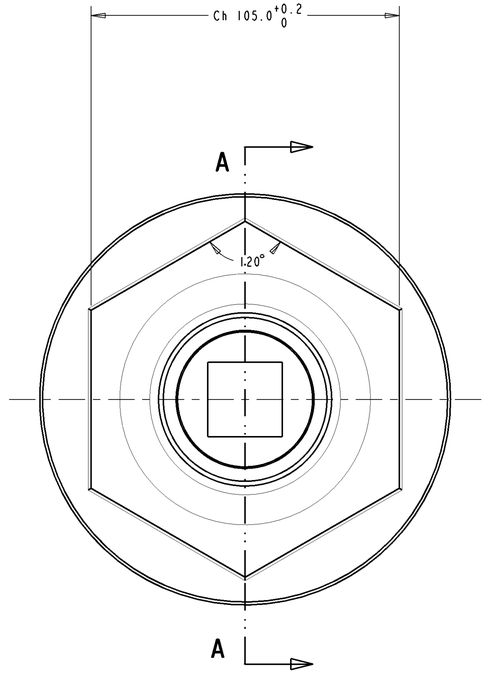
| A | 3256-L-1130 RELEASED FOR TOOLING | 78365<br>30 AUG. 01 | M.P.<br>P.P. |
| | | | |






SECTION A-A

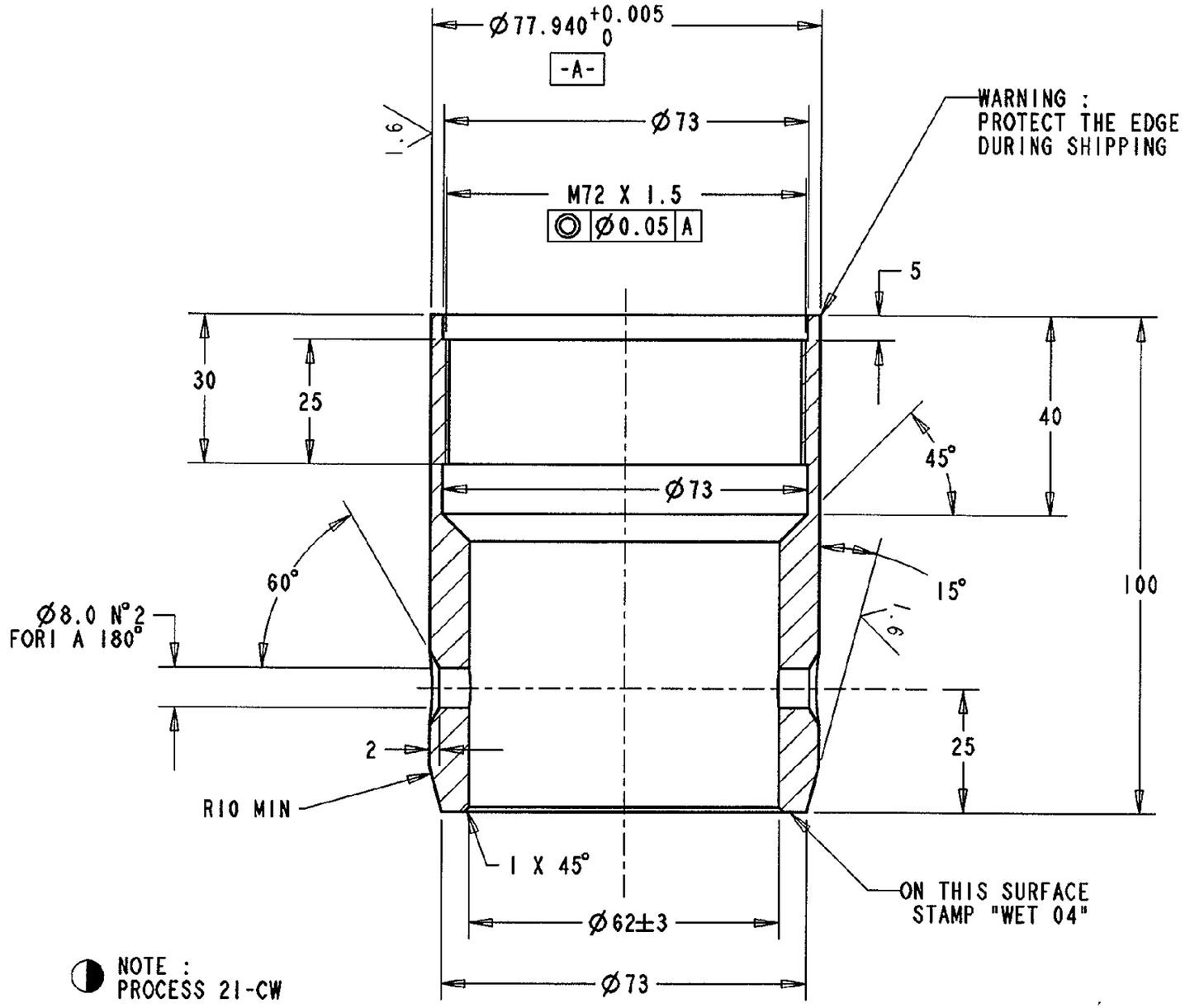



# SERVICE TOOL
# REF. - WET 03

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| APPLY SPECIFIED MERITOR MARKINGS PER A.O. ENGINEERING STANDARD D-004 | THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITOUT THE PRIOR WRITTEN PERMISSION OF MERITOR. | MATERIAL A.O. SPEC. B-47 | | | | | | 78365 | PART/DWG NO. 3256-L-1130 | 3923 |
| | | PROCESS A.O. SPEC. 21-CW | APPROVED: PROJ.ENG. / MATERIAL / SPECIAL | DRAWN BY PUGNO 30 AUG. 01 | CHECKED BY M.PONTANARI 30 AUG. 01 | 3RD ANGLE PROJECTION | DRAWING SIZE D | RELEASE | NAME WRENCH FOR WHEEL HUB BEARING ADJUSTMENT NUT | ENG.DESC. CODE |
| 1 2 3 4 IN. 10THS. 10 20 30 40 50 60 70 80 90 100MM | WEIGHT RGH./FIN. 5.563 KGS | INQUIRY NO. | C.R./T.E. NO. APP. NO. RCVC-872 | | ORIGINAL FOR U-177E | SCALE 1:1 | DESIGN CONTROL GROUP CAMERI | | MERITOR. | METRIC |
| | | | | | | | | PART NO. | | |




| | LAYOUT NO. | |
|---|---|---|

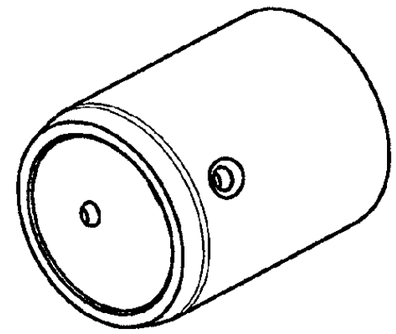
SIM. PARTS

INTERPRET DWG. PER AO ENG STDS DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRM STD Z-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS 7°±1°
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS,FINS,FLASH & PROJECTIONS

FINISH ALLOWANCE
F1 = 0.8
F2 = 1.6
F3 = 2.4
F4 = 3.2
F5 = 4.0
F6 = 4.8
F8 = 6.4
F10 = 8.0

REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-N-1106 RELEASED FOR TOOLING | 70388 08 OCT 99 | M.P. M.L. |



# SERVICE TOOL
# REF. - WET 04

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER

APPLY SPECIFIED MERITOR MARKINGS PER A. O. ENGINEERING STANDARD D-004.

THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR.

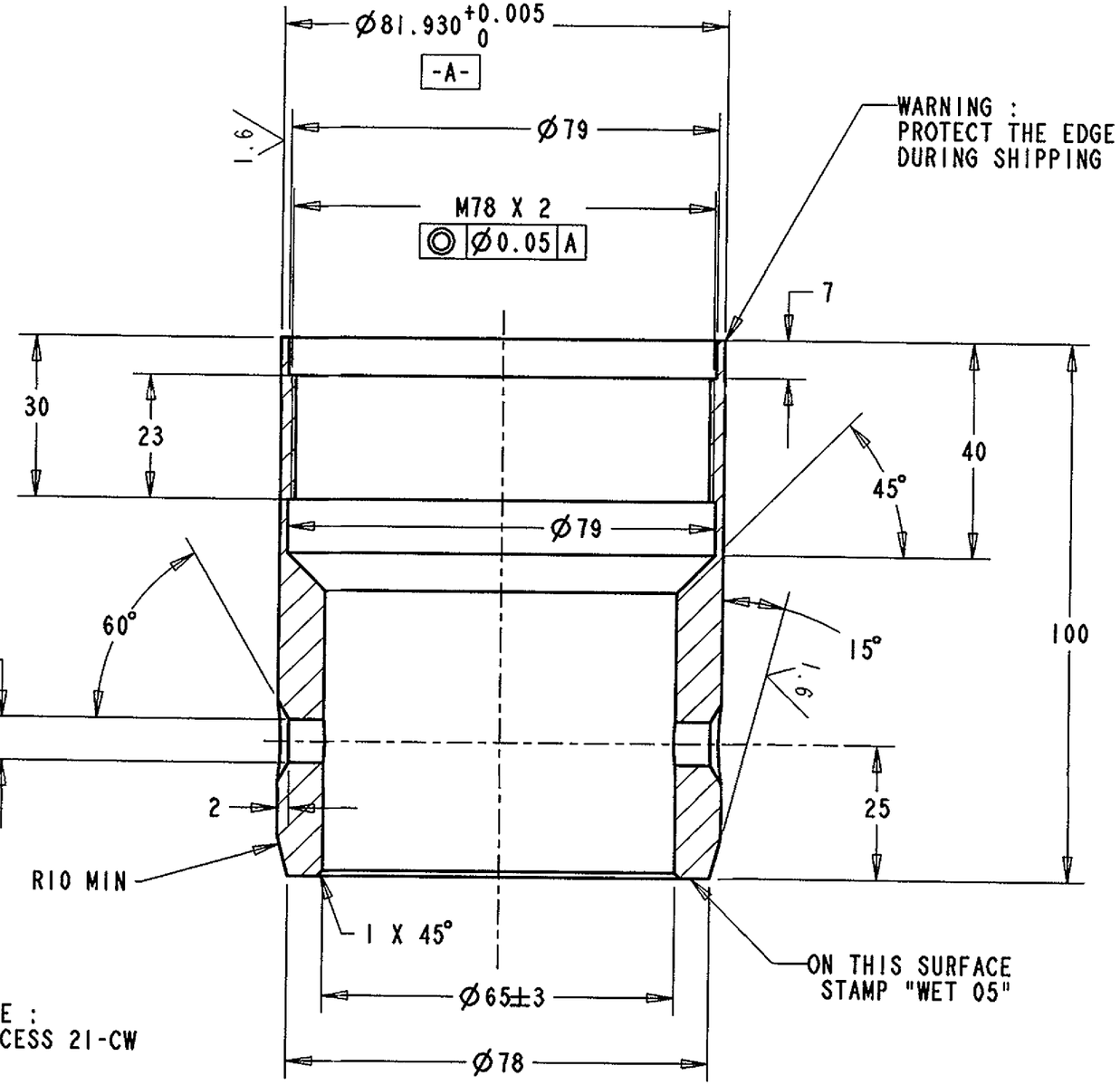
MATERIAL: A.O. SPEC. B-110
PROCESS: A.O. SPEC. 661-D ◑

| APPROVED | | | DRAWN BY | CHECKED BY | 3RD ANGLE PROJECTION |
|---|---|---|---|---|---|
| PROJ ENG. | MATERIAL | SPECIAL | M.LUPI 28-Jun-99 | M.FONTANARI 30-Jun-99 | |

| | | | |
|---|---|---|---|
| 70388 | PART/DWG NO. 3256-N-1106 | | 9117 |
| RELEASE | NAME GUIDE TO INSTALL WHEEL HUB | | ENG. DESC. CODE |
| | MERITOR. | METRIC | |

IN.-10THS. 1 2 3
10 20 30 40 50 60 70 80 MM

| WEIGHT RGH/FIN | INQUIRY NO. | C.R./T.E. NO. APP. NO. | ORIGINAL FOR | SCALE | DESIGN CONTROL GROUP | PART NO. |
|---|---|---|---|---|---|---|
| 1.201 KGS | | RCVC-704 | H-127E | 1:1 | CAMERI | |



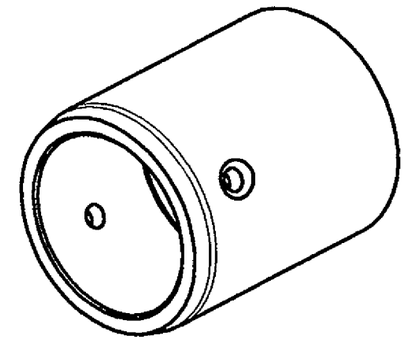

| | LAYOUT NO. | |
|---|---|---|
| SIM. PARTS | | |

INTERPRET DWG. PER AO ENG STDS DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRM STD Z-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS 7°±1°
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS, FINS, FLASH & PROJECTIONS

FINISH ALLOWANCE
F1 = 0.8
F2 = 1.6
F3 = 2.4
F4 = 3.2
F5 = 4.0
F6 = 4.8
F8 = 6.4
F10 = 8.0

REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-P-1108 RELEASED FOR TOOLING | 70388 08 10 99 | M.P. M.L. |



# SERVICE TOOL
# REF. - WET 05

APPLY SPECIFIED MERITOR MARKINGS PER A. O. ENGINEERING STANDARD D-004.

THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR.

MATERIAL: A.O. SPEC. B-110
PROCESS: A.O. SPEC. 661-D

| APPROVED | | | DRAWN BY | CHECKED BY | 3RD ANGLE PROJECTION |
|---|---|---|---|---|---|
| PROJ ENG. | MATERIAL | SPECIAL | M. LUPI 28-Jun-99 | M. PONTAMARI 30-Jun-99 | |

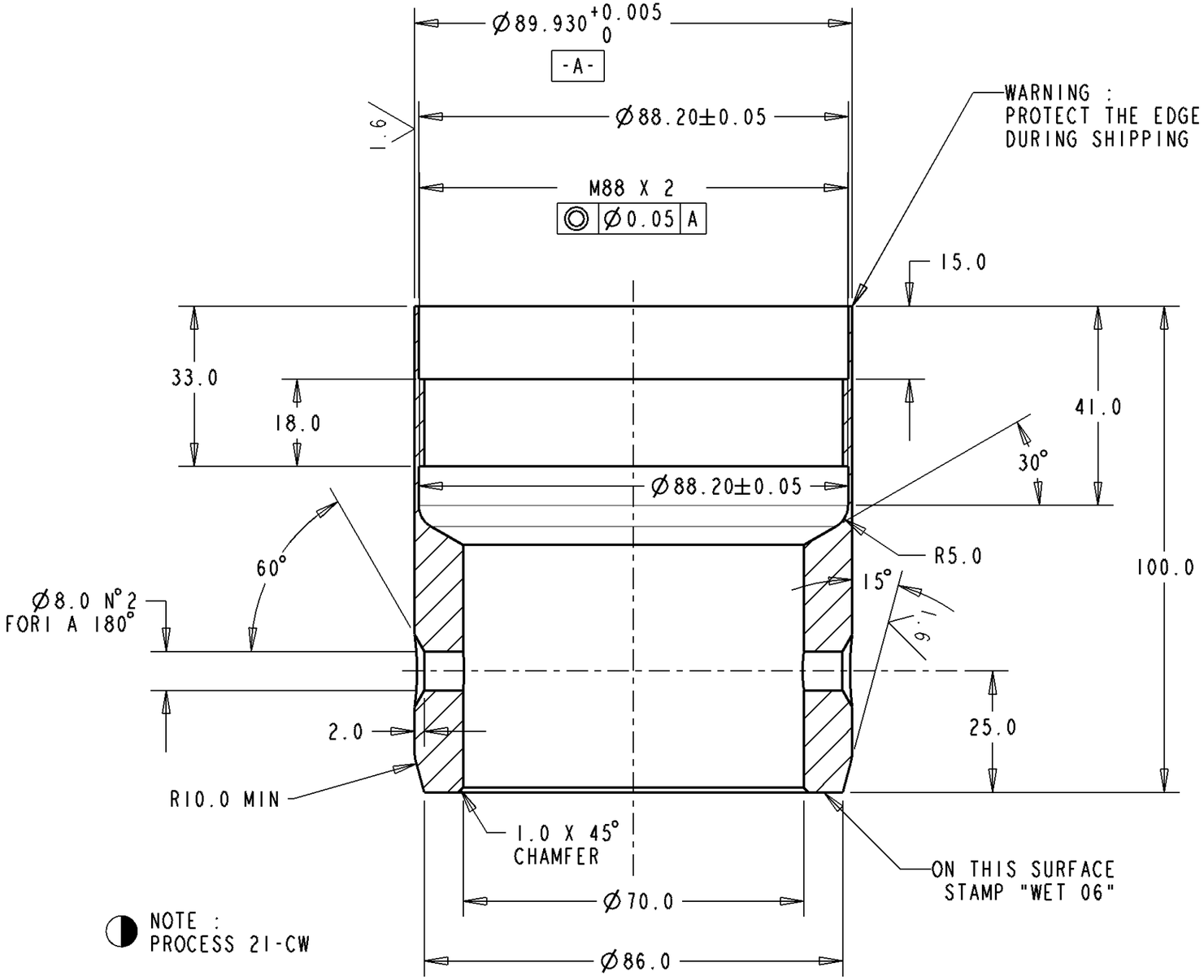
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| WEIGHT RGH/FIN | 1.201 KGS | INQUIRY NO. | C.R./T.E. NO. APP. NO. | RCVC-738 | ORIGINAL FOR | R-147E | SCALE 1:1 |

DESIGN CONTROL GROUP: CAMERI
PART NO.

| | | |
|---|---|---|
| 70388 | PART/DWG NO. 3256-P-1108 | 9117 |
| RELEASE | NAME GUIDE TO INSTALL WHEEL HUB | ENG. DESC. CODE |
| | MERITOR. | METRIC |

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER




| | LAYOUT NO. | |
|---|---|---|

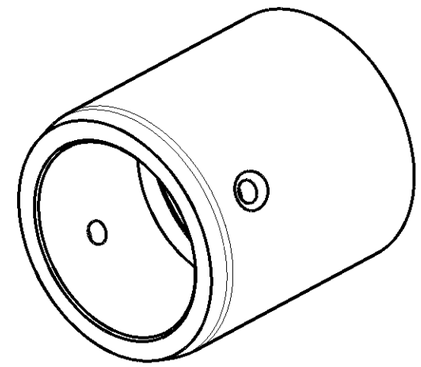
SIM.PARTS

INTERPRET DWG. PER AO ENG STDS DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRM STD Z-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS 7°±1°
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS, FINS, FLASH & PROJECTIONS

FINISH ALLOWANCE
F1 : 0.8
F2 : 1.6
F3 : 2.4
F4 : 3.2
F5 : 4.0
F6 : 4.8
F8 : 6.4
F10 : 8.0

REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-M-1131 RELEASED FOR TOOLING | 78365 30 AUG. 01 | M.P. P.P. |



# SERVICE TOOL
# REF. - WET 06

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER

APPLY SPECIFIED MERITOR MARKINGS PER A. O. ENGINEERING STANDARD D-004.

THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR.

MATERIAL: A.O. SPEC. B-110
PROCESS: A.O. SPEC. 661-D

| APPROVED | | | DRAWN BY | CHECKED BY | 3RD ANGLE PROJECTION |
|---|---|---|---|---|---|
| PROJ ENG. | MATERIAL | SPECIAL | PUGNO 30 AUG. 01 | M.PONTANARI 30 AUG. 01 | |

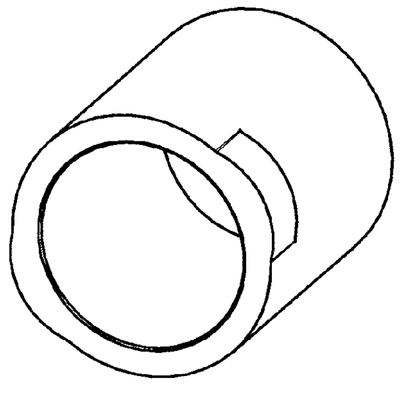
| 78365 | PART/DWG NO. 3256-M-1131 | 9117 |
|---|---|---|
| RELEASE | NAME GUIDE TO INSTALL WHEEL HUB | ENG. DESC. CODE |

MERITOR™ METRIC

IN.-10THS. 1 2 3 — 10 20 30 40 50 60 70 80 MM

| WEIGHT RGH/FIN | INQUIRY NO. | C.R./T.E. NO. APP. NO. | ORIGINAL FOR | SCALE | DESIGN CONTROL GROUP | PART NO. |
|---|---|---|---|---|---|---|
| 1.201 KGS | | RCVC-872 | U-177E | 1:1 | CAMERI | |

◑ NOTE :
PROCESS 21-CW



| | LAYOUT NO. | |
|---|---|---|

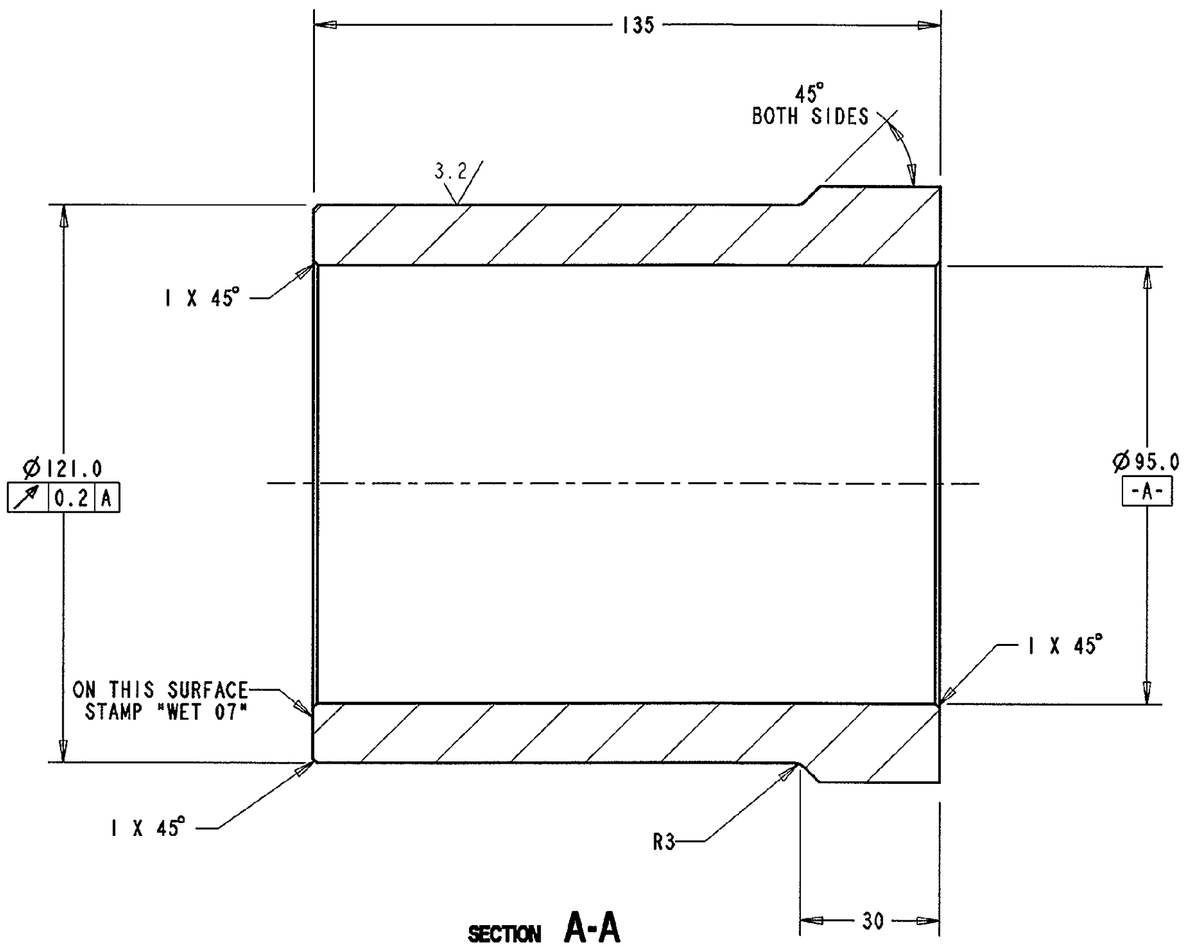
SIM. PARTS

INTERPRET DWG. PER AO ENG STDS DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRM STD Z-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS 7°±1°
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS, FINS, FLASH & PROJECTIONS

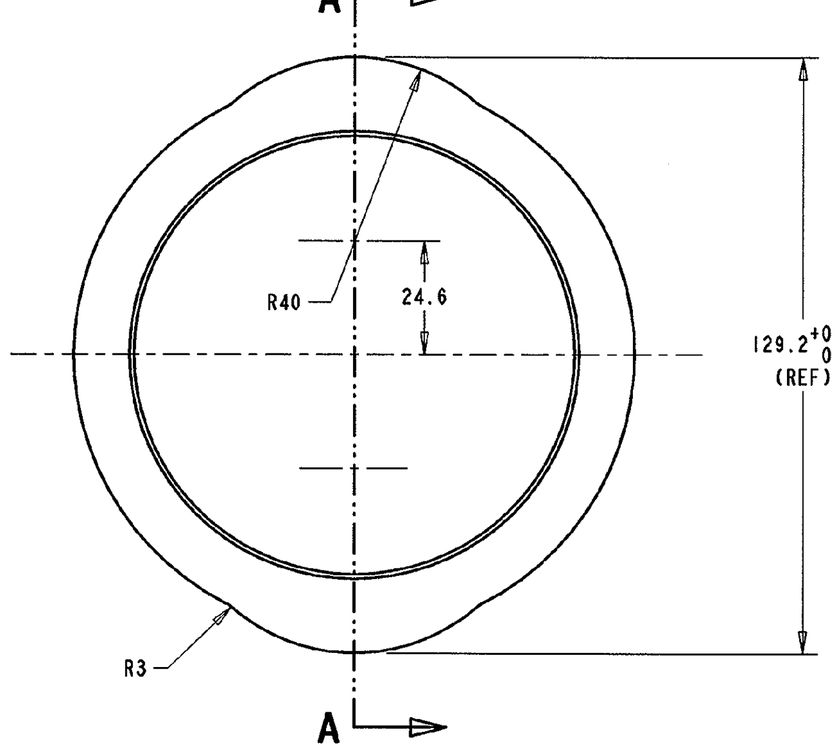
FINISH ALLOWANCE
F1 = 0.8
F2 = 1.6
F3 = 2.4
F4 = 3.2
F5 = 4.0
F6 = 4.8
F8 = 6.4
F10 = 8.0

REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-Q-1109 RELEASED FOR TOOLING | 70388 08 10 99 | M.P. M.L. |




SECTION A-A




# SERVICE TOOL
# REF. - WET 07

| | | |
|---|---|---|
| 70388 | PART/DWG NO. 3256-Q-1109 | 9117 |
| RELEASE | NAME HUB BEARING REMOVING TOOL | ENG. DESC. CODE |

APPLY SPECIFIED MERITOR MARKINGS PER A.O. ENGINEERING STANDARD D-004.

THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR.

MATERIAL: A.O. SPEC. B-110
PROCESS: A.O. SPEC. 661-D ◑

| APPROVED | | |
|---|---|---|
| PROJ. ENG. | MATERIAL | SPECIAL |
| | | |

DRAWN BY: M.LUPI 30-Jun-99
CHECKED BY: M.PONTANARI 30-Jun-99
3RD ANGLE PROJECTION

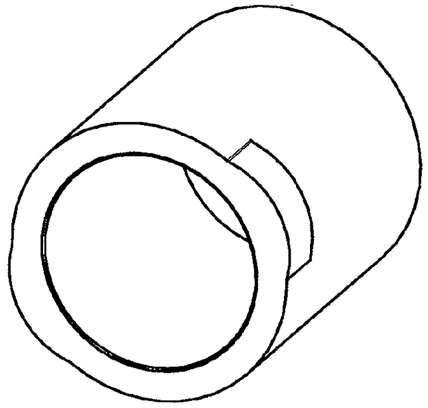
MERITOR. METRIC

IN. 10THS. 10 20 30 40 50 60 70 80 90 100MM

WEIGHT RGH/FIN: 6.588 KGS
INQUIRY NO.
C.R./T.E. NO. APP. NO.: RCVC-704
ORIGINAL FOR: H-127E
SCALE: 1:1
DESIGN CONTROL GROUP: CAMERI
PART NO.

DO NOT CHANGE MANUALLY
SOLID MODELING CENTER

◑ NOTE :
PROCESS 21-CW



| | LAYOUT NO. | |
|---|---|---|

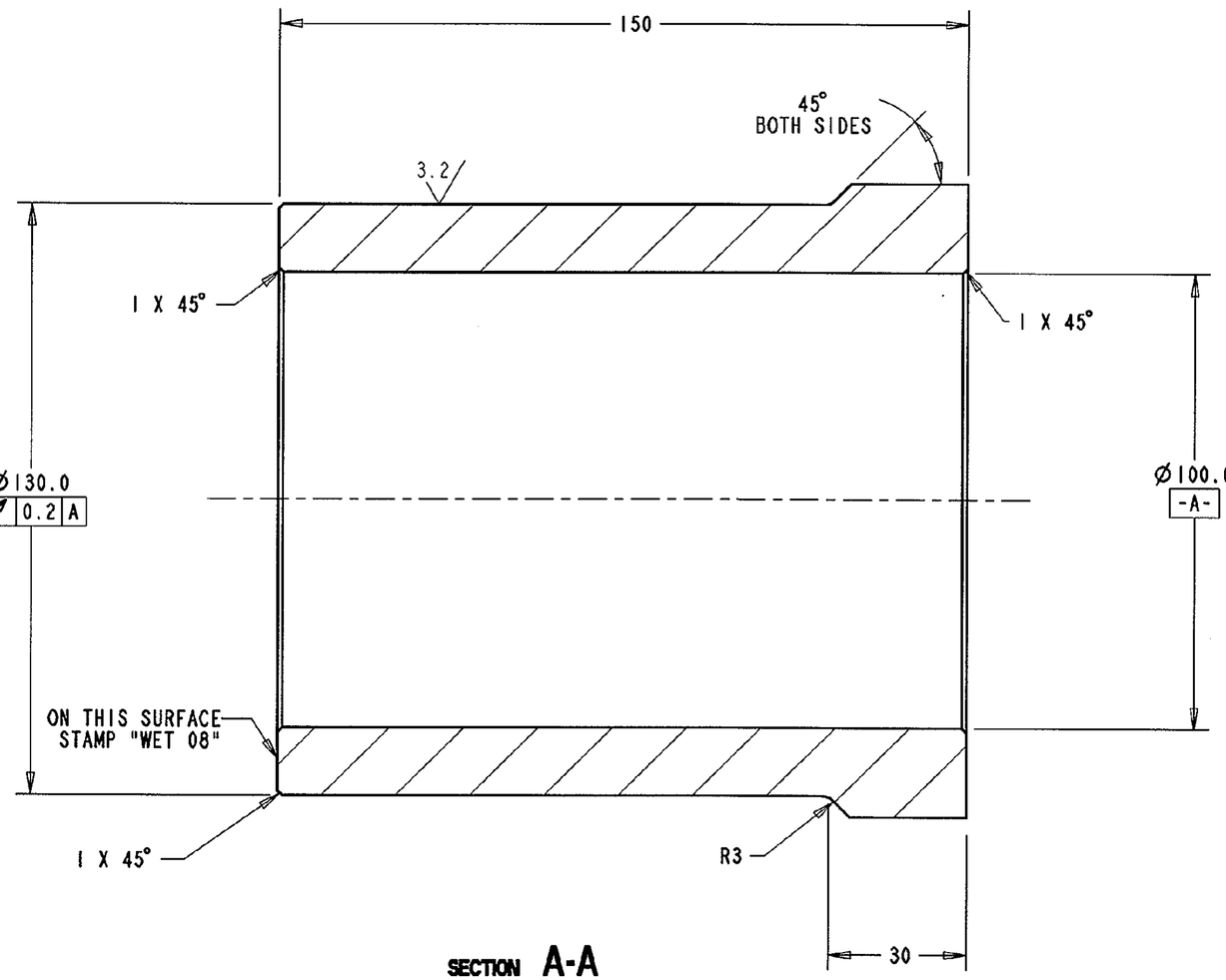
SIM. PARTS

INTERPRET DWG. PER AO ENG STDS DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRM STD Z-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS 7°±1°
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS, FINS, FLASH & PROJECTIONS

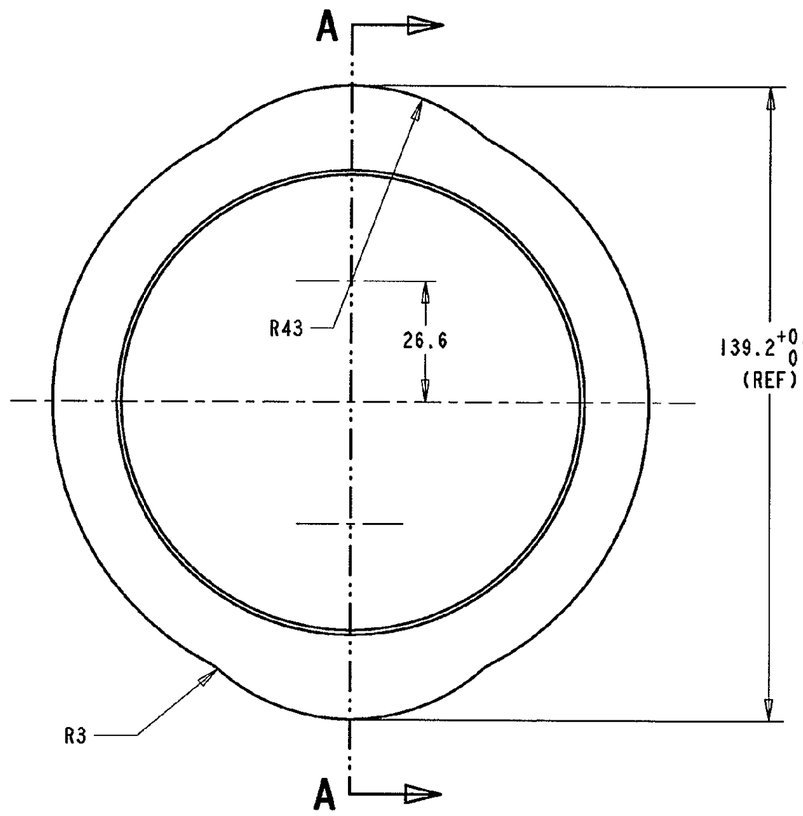
FINISH ALLOWANCE
F1 = 0.8
F2 = 1.6
F3 = 2.4
F4 = 3.2
F5 = 4.0
F6 = 4.8
F8 = 6.4
F10 = 8.0

REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-R-1110 RELEASED FOR TOOLING | 70388 08 10 99 | M.P. M.L. |




SECTION A-A




# SERVICE TOOL
# REF. - WET 08

| | | |
|---|---|---|
| 70388 | PART/DWG NO. 3256-R-1110 | 9117 |
| RELEASE | NAME HUB BEARING REMOVING TOOL | ENG. DESC. CODE |

APPLY SPECIFIED MERITOR MARKINGS PER A.O. ENGINEERING STANDARD D-004.

THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR.

MATERIAL: A.O. SPEC. B-110
PROCESS: A.O. SPEC. 661-D ◑

| APPROVED | | | DRAWN BY | CHECKED BY | 3RD ANGLE PROJECTION |
|---|---|---|---|---|---|
| PROJ. ENG. | MATERIAL | SPECIAL | M.LUPI 30-Jun-99 | M.PONTANARI 30-Jun-99 | |

MERITOR. METRIC

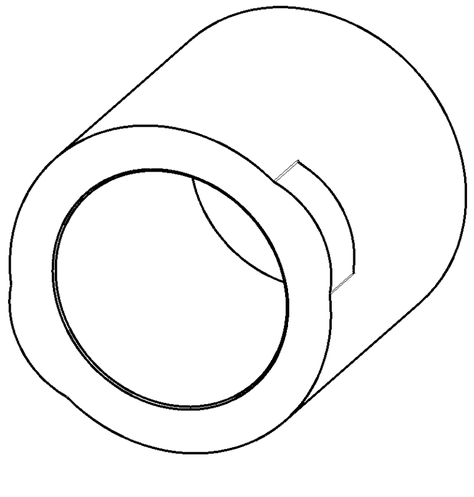
IN. 10THS. 10 20 30 40 50 60 70 80 90 100MM

| WEIGHT RGH/FIN | 6.588 KGS | INQUIRY NO. | C.R./T.E. NO. APP. NO. RCVC-738 | ORIGINAL FOR R-147E | SCALE 1:1 | DESIGN CONTROL GROUP CAMERI | PART NO. |
|---|---|---|---|---|---|---|---|

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER

◑ NOTE :
PROCESS 21-CW



| | LAYOUT NO. | |
|---|---|---|

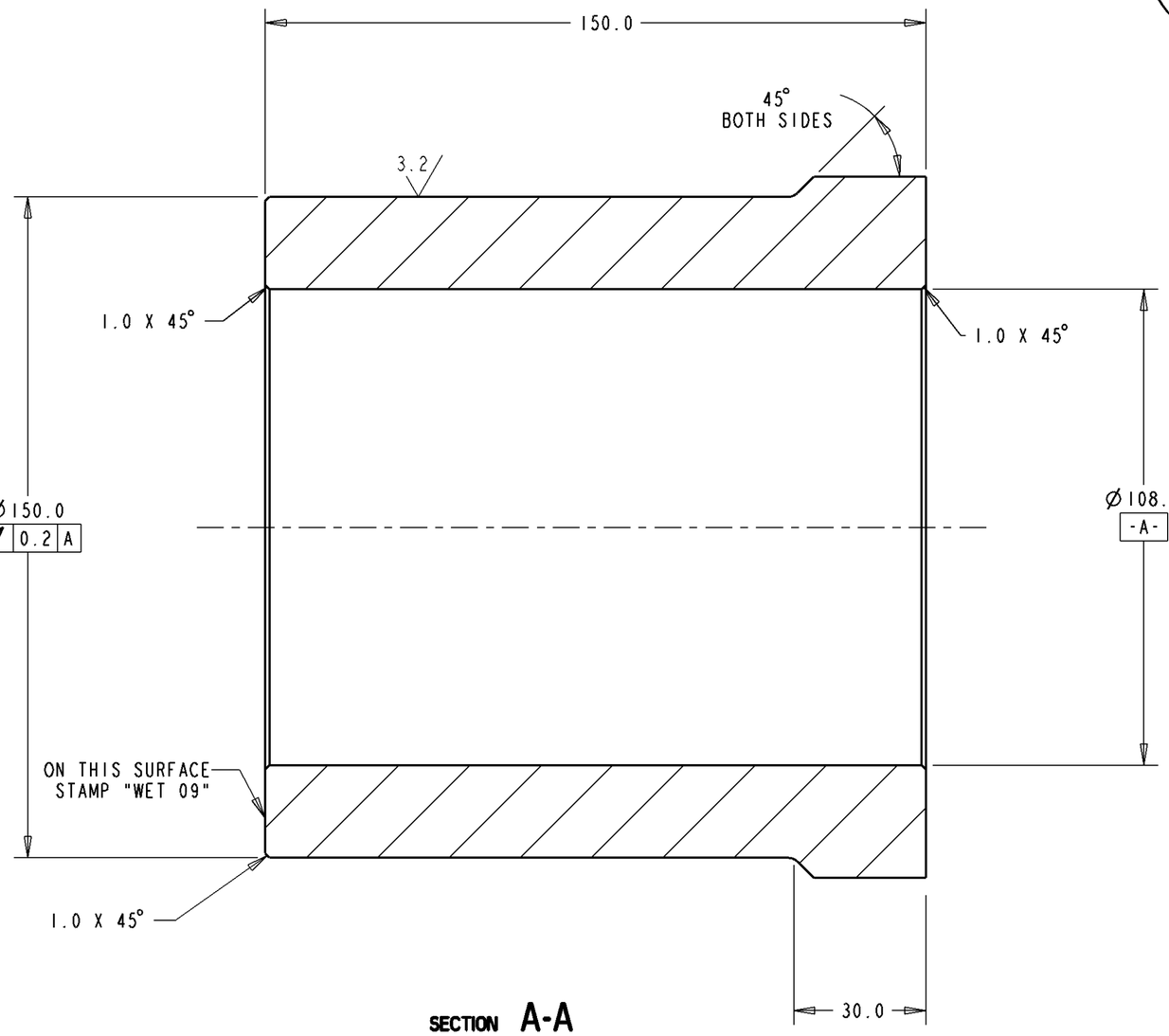
SIM.PARTS

INTERPRET DWG. PER AO ENG STDS DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRM STD 2-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS 7°±1°
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS,FINS,FLASH & PROJECTIONS

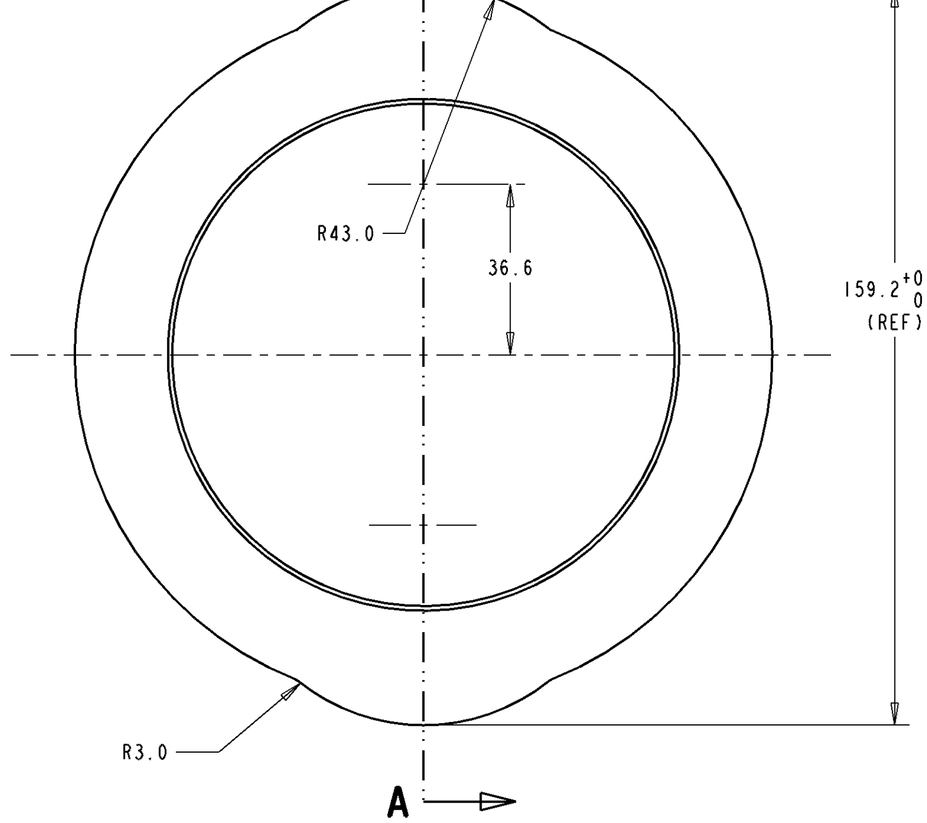
FINISH ALLOWANCE
F1 = 0.8
F2 = 1.6
F3 = 2.4
F4 = 3.2
F5 = 4.0
F6 = 4.8
F8 = 6.4
F10 = 8.0

REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-N-1132 RELEASED FOR TOOLING | 78365 30 AUG. 01 | M.P. P.P. |




SECTION A-A




# SERVICE TOOL
# REF. - WET 09

| | | |
|---|---|---|
| 78365 | PART/DWG NO. 3256-N-1132 | 9117 |
| RELEASE | NAME HUB BEARING REMOVING TOOL | ENG. DESC. CODE |

APPLY SPECIFIED MERITOR
MARKINGS PER A.O.
ENGINEERING STANDARD D-004.

THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR.

MATERIAL: A.O. SPEC. B-110
PROCESS: A.O. SPEC. 661-D ◑

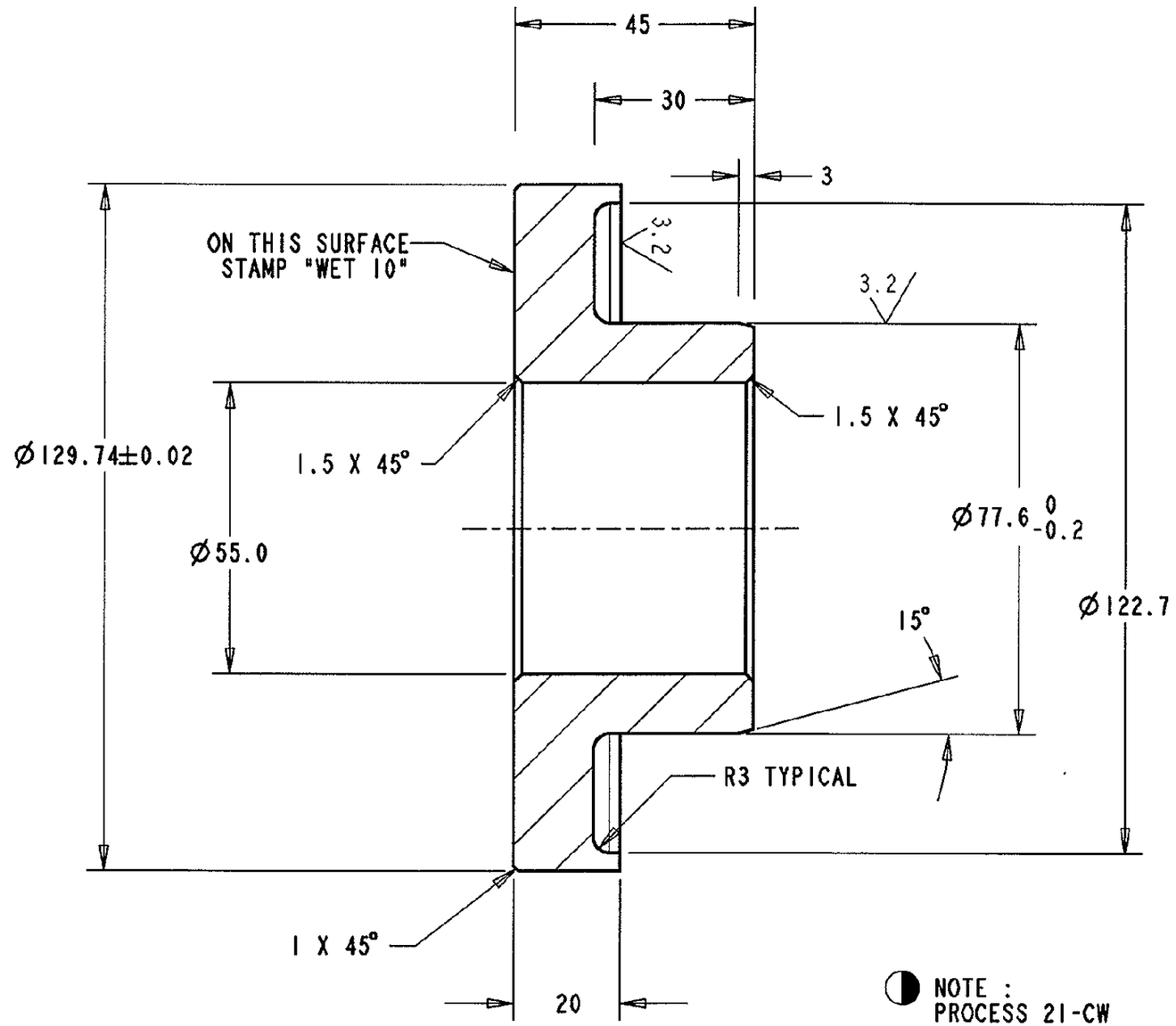
| APPROVED | | | DRAWN BY | CHECKED BY | 3RD ANGLE PROJECTION | DRAWING SIZE |
|---|---|---|---|---|---|---|
| PROJ. ENG. | MATERIAL | SPECIAL | PUGNO 30 AUG. 01 | M.PONTANARI 30 AUG. 01 | | C |

MERITOR™ METRIC

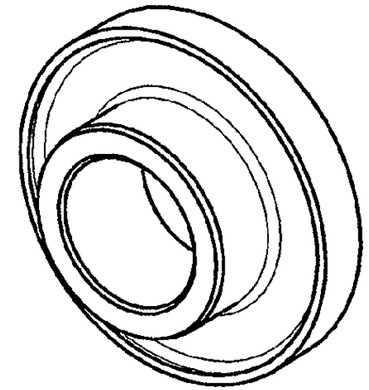
| | | | | | |
|---|---|---|---|---|---|
| IN. 10THS. 1 2 3 4 / 10 20 30 40 50 60 70 80 90 100MM | WEIGHT RGH/FIN 6.588 KGS | INQUIRY NO. | C.R./T.E. NO. APP. NO. RCVC-872 | ORIGINAL FOR U-177E | SCALE 1:1 |

DESIGN CONTROL GROUP: CAMERI
PART NO.

DO NOT CHANGE MANUALLY
SOLID MODELING CENTER




NOTE :
PROCESS 21-CW



# SERVICE TOOL
# REF. - WET 10

| | LAYOUT NO. | |
|---|---|---|

SIM. PARTS

INTERPRET DWG. PER AO ENG STDS DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRM STD Z-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS 7°±1°
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS, FINS, FLASH & PROJECTIONS

FINISH ALLOWANCE
F1 = 0.8
F2 = 1.6
F3 = 2.4
F4 = 3.2
F5 = 4.0
F6 = 4.8
F8 = 6.4
F10 = 8.0

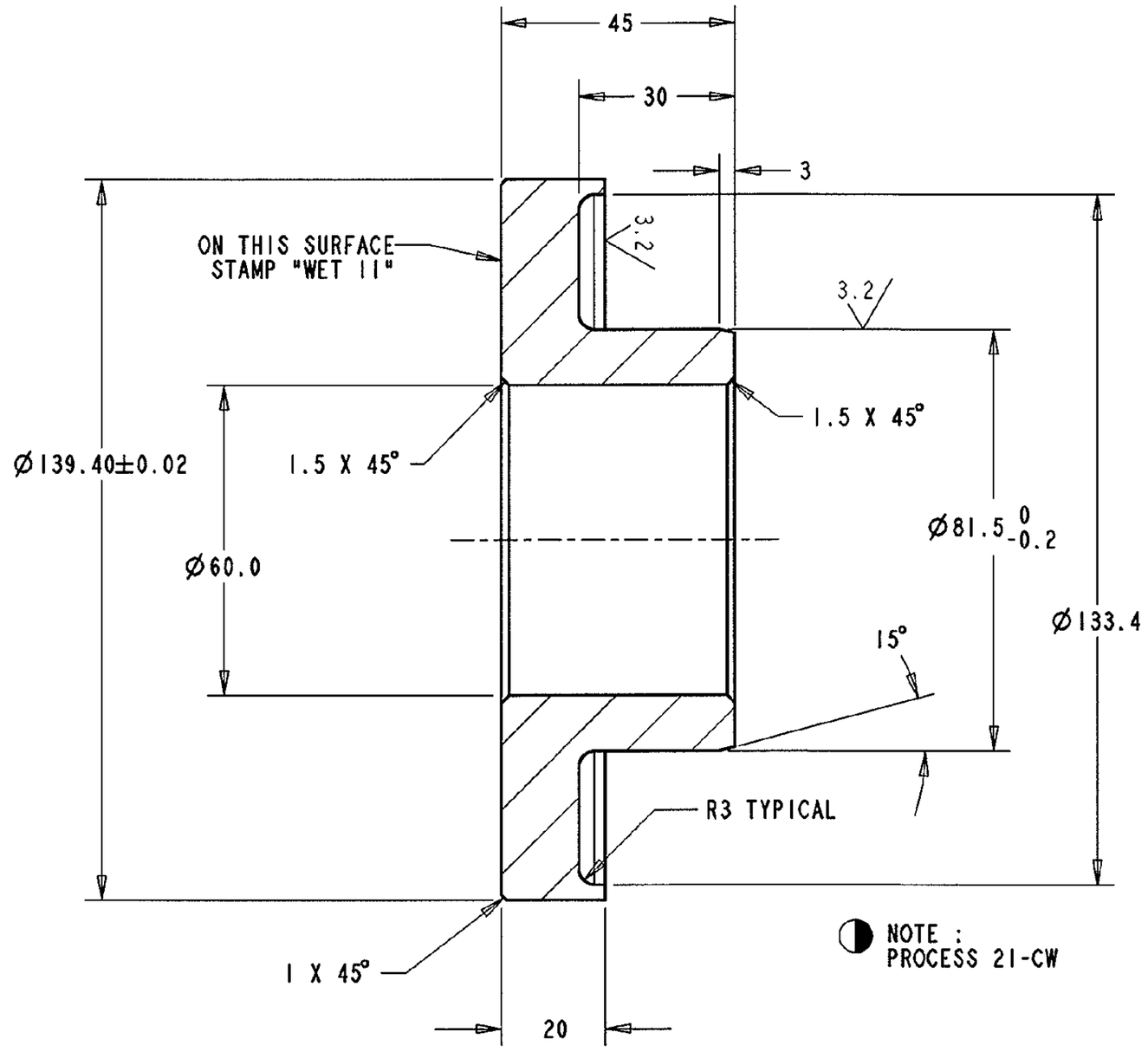
REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-S-1111 RELEASED FOR TOOLING | 70388<br>08 10 99 | M.P.<br>M.L. |

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 70388 | PART/DWG NO. 3256-S-1111 | | | | | | | | 9117 |
| RELEASE | NAME HUB BEARING FITTING TOOL | | | | | | | | ENG. DESC. CODE |
| | MERITOR. | | | | | | | | METRIC |
| APPLY SPECIFIED MERITOR MARKINGS PER A. O. ENGINEERING STANDARD D-004. | THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR. | MATERIAL A.O. SPEC. B-110 | | | | | | | |
| | | PROCESS A.O. SPEC. 661-D ◑ | | | | | | | |
| | | | APPROVED: PROJ ENG. | MATERIAL | SPECIAL | DRAWN BY M.LUPI 30-Jun-99 | CHECKED BY M.PONTAMARI 30-Jun-99 | 3RD ANGLE PROJECTION | |
| IN.-10THS. 1 2 3 10 20 30 40 50 60 70 80 MM | WEIGHT RGH/FIN 1.936 KGS | INQUIRY NO. | C.R./T.E. NO. APP. NO. RCVC-704 | | | ORIGINAL FOR H-127E | SCALE 1:1 | DESIGN CONTROL GROUP CAMERI | PART NO. |




| | LAYOUT NO. | |
|---|---|---|

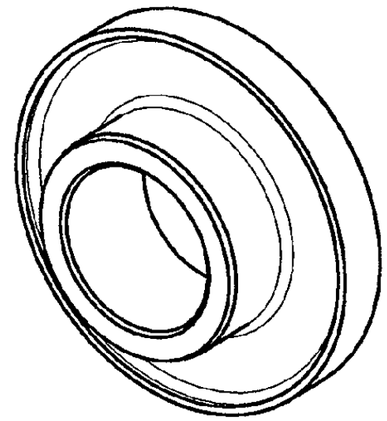
SIM. PARTS

INTERPRET DWG. PER AO ENG STDS DRN.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRW STD Z-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS 7°±1°
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS, FINS, FLASH & PROJECTIONS

FINISH ALLOWANCE
F1 = 0.8
F2 = 1.6
F3 = 2.4
F4 = 3.2
F5 = 4.0
F6 = 4.8
F8 = 6.4
F10 = 8.0

REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-T-1112 RELEASED FOR TOOLING | 70388 08 10 99 | M.P. M.L. |



# SERVICE TOOL
# REF. - WET 11

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER

APPLY SPECIFIED MERITOR MARKINGS PER A. O. ENGINEERING STANDARD D-004.

THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR.

MATERIAL: A.O. SPEC. B-110
PROCESS: A.O. SPEC. 661-D

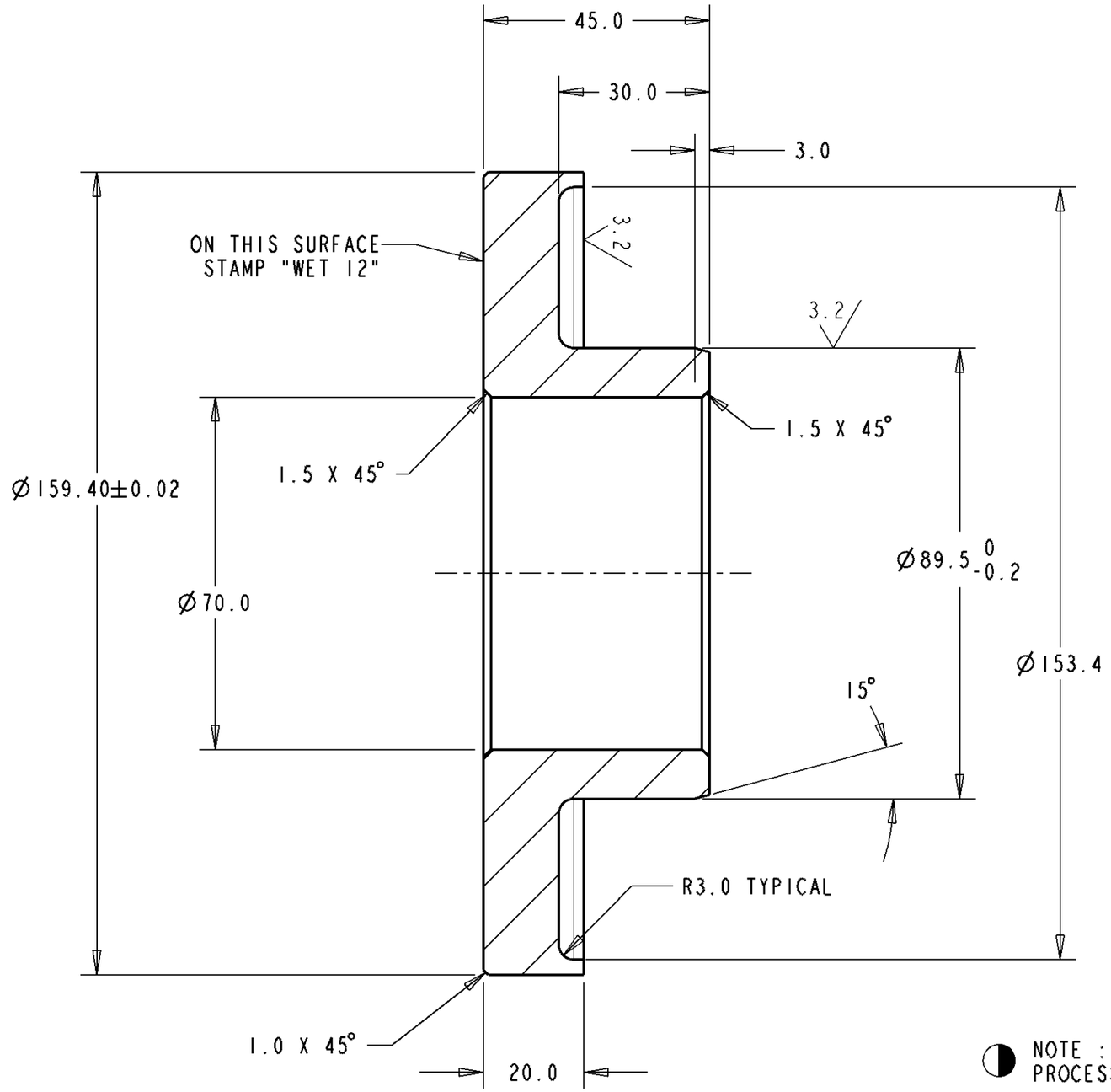
| APPROVED | | | DRAWN BY | CHECKED BY | 3RD ANGLE PROJECTION |
|---|---|---|---|---|---|
| PROJ ENG. | MATERIAL | SPECIAL | M.LUPI 30-Jun-99 | M.PONTAMARI 30-Jun-99 | |

| 70388 | PART/DWG NO. 3256-T-1112 | 9117 |
|---|---|---|
| RELEASE | NAME HUB BEARING FITTING TOOL | ENG. DESC. CODE |

MERITOR. METRIC

IN.-10THS. MM

| WEIGHT RGH/FIN | 1.936 KGS | INQUIRY NO. | C.R./T.E. NO. APP. NO. RCVC-738 | ORIGINAL FOR R-147E | SCALE 1:1 | DESIGN CONTROL GROUP CAMERI | PART NO. |
|---|---|---|---|---|---|---|---|




NOTE :
PROCESS 21-CW

| | LAYOUT NO. | |
|---|---|---|

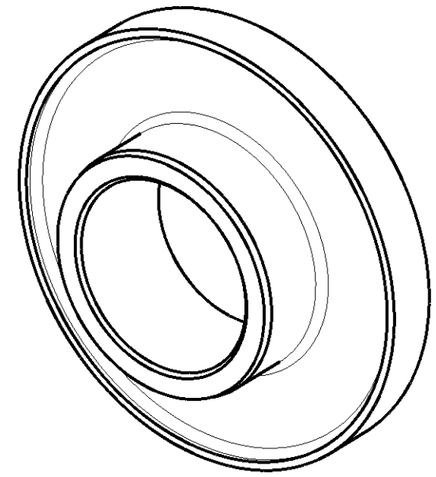
SIM.PARTS

INTERPRET DWG. PER AO ENG STDS DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRM STD 2-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS 7°±1°
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS,FINS,FLASH & PROJECTIONS

FINISH ALLOWANCE
F1 : 0.8
F2 : 1.6
F3 : 2.4
F4 : 3.2
F5 : 4.0
F6 : 4.8
F8 : 6.4
F10 : 8.0

REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-P-1134 RELEASED FOR TOOLING | 78365 30 AUG. 01 | M.P. P.P. |



# SERVICE TOOL
# REF. - WET 12

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| APPLY SPECIFIED MERITOR MARKINGS PER A. O. ENGINEERING STANDARD D-004. | THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR. | MATERIAL A.O. SPEC. B-110 | | | | 78365 | PART/DWG NO. 3256-P-1134 | 9117 |
| | | PROCESS A.O. SPEC. 661-D ◑ | APPROVED PROJ ENG. / MATERIAL / SPECIAL | DRAWN BY PUGNO 30 AUG. 01 | CHECKED BY M.PONTANARI 30 AUG. 01 | RELEASE | NAME HUB BEARING FITTING TOOL | ENG. DESC. CODE |
| | | | | | 3RD ANGLE PROJECTION | | MERITOR. | METRIC |
| IN.-10THS. 1 2 3 10 20 30 40 50 60 70 80 MM | WEIGHT RGH/FIN 1.936 KGS | INQUIRY NO. | C.R./T.E. NO. APP. NO. RCVC-872 | ORIGINAL FOR U-177E | SCALE 1:1 | DESIGN CONTROL GROUP CAMERI | PART NO. | |

ALL SMALL RADII NOT SPECIFIED TO BE 2.0

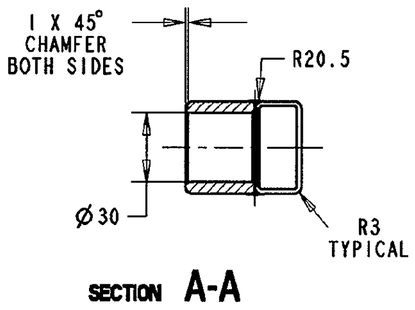
| | LAYOUT NO. | |
|---|---|---|
| SIM. PARTS | | |

INTERPRET DWG. PER AO ENG STDS DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRM STD Z-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS $7^{+}_{-}1^{\circ}$
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS, FINS, FLASH & PROJECTIONS

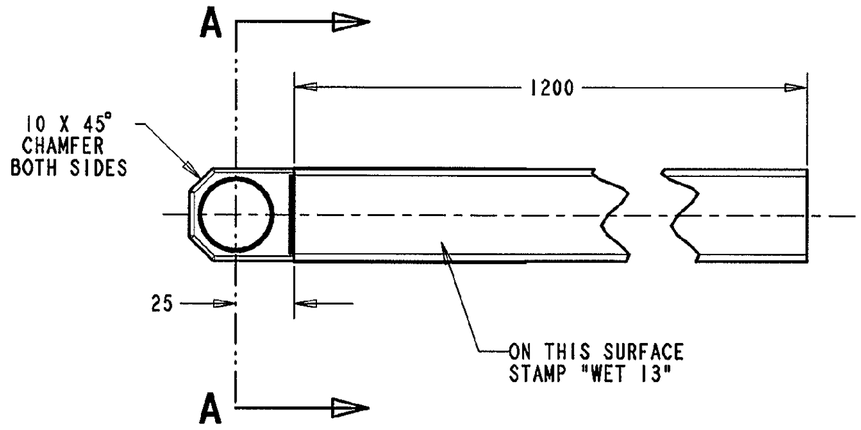
FINISH ALLOWANCE
F1 = 0.8
F2 = 1.6
F3 = 2.4
F4 = 3.2
F5 = 4.0
F6 = 4.8
F8 = 6.4
F10 = 8.0

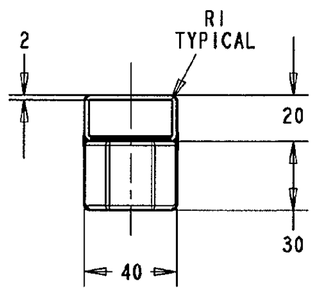
REVISIONS

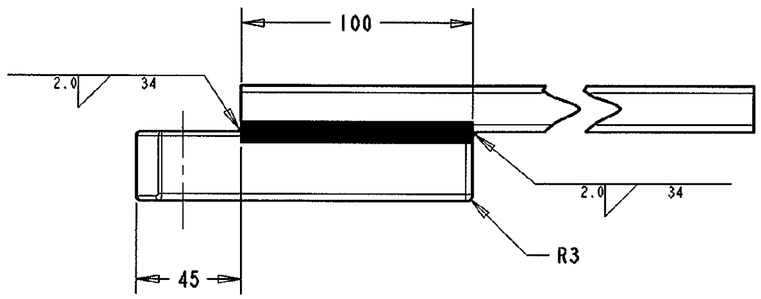
| | | | |
|---|---|---|---|
| A | 3256-U-1113 RELEASED FOR TOOLING | 70388<br>08 10 99 | M.P.<br>M.L. |




SECTION **A-A**



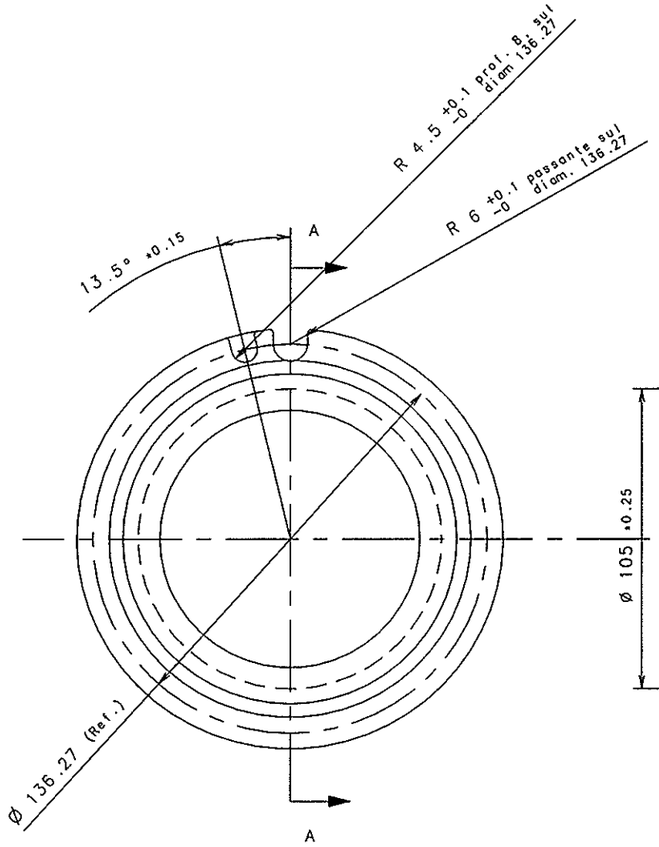



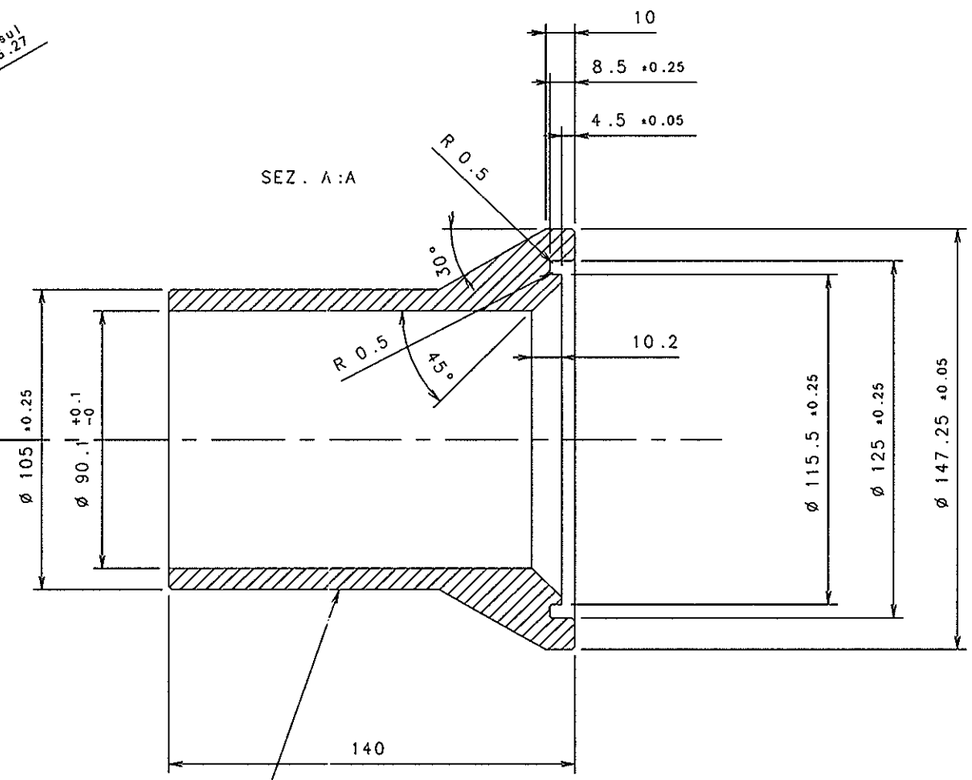

# SERVICE TOOL
# REF. - WET 13

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 70388 | PART/DWG NO. 3256-U-1113 | | 9117 |
| APPLY SPECIFIED MERITOR MARKINGS PER A.O. ENGINEERING STANDARD D-004. | THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR. | MATERIAL B-100-1 | | | | RELEASE | NAME REACTION LEVER | | ENG. DESC. CODE |
| | | PROCESS A.O. SPEC. 510 REF 30-EO WITH 525 | APPROVED: PROJ. ENG. / MATERIAL / SPECIAL | DRAWN BY M. LUPI 28-Sep-99 | CHECKED BY M. PONTANARI 28-SEP-99 | | MERITOR | | METRIC |
| IN. 10THS. 1 2 3 4 / 10 20 30 40 50 60 70 80 90 100MM | WEIGHT RGH/FIN 3.192 KGS | INQUIRY NO. | C.R./T.E. NO. APP. NO. RCVC-704 | ORIGINAL FOR ALL MODELS | SCALE 1:2 | DESIGN CONTROL GROUP CAMERI | PART NO. | | |




SPIGOLI NON QUOTATI:
SMUSSARE 1 x 45°

3

# SERVICE TOOL REF. - WET 14

MATERIALE : 38NiCrMo4 Bon.

| | GRAFICO NO<br>LAYOUT NO. | |
|---|---|---|
| SIMILITUDINE CON:<br>SIM.PARTS: | | |
| SOVRAMET.PER LAVORAZIONE F1 = 0.8 F3 = 2.4 F5 = 4.0 F8 = 6.4<br>FINISH ALLOWANCE F2 = 1.6 F4 = 3.2 F6 = 4.8 F10 = 8.0 | | |

| | |
|---|---|
| INTERPRETARE IL DIS.SECONDO MANUALE PROGETT.<br>SALVO DIVERSAMENTE SPECIFICATO:<br>TOLLERANZE DI FUSIONE VED.NORM. Z-001-2<br>TOLLER.DI FORG. +1.6 -0.8; SPOGLIE 7o±1o<br>ALTRE TOLLER. ±0.4 PER 2 CIFRE DECIMALI<br>±0.8 PER 1 CIFRA DECIMALE<br>±1o PER DIMENSIONI ANGOLARI.<br>R 0.80 SU TUTTI GLI ANGOLI INTERNI LAVORATI.<br>SMUSSARE BORDI E SPIGOLI,ELIMINARE BAVE,<br>CRESTE E SPORGENZE NON INDICATE A DISEGNO. | INTERPRET DRAWING PER ENG.STDS.DRM.<br>UNLESS OTHERWISE SPECIFIED:<br>CAST.TOLERANCES PER DRM.STD. Z-001-2<br>FORG. TOLS. +1.6 -0.8; DRFTS 7o±1o<br>OTHERWISE TOLS. ±0.4 ON 2 PLACE DECIMALS<br>±0.8 ON 1 PLACE DECIMAL<br>±1o ON ANGULAR DIMENSIONS.<br>ALL MACHINED INSIDE CORNERS 0.80 RADIUS.<br>BREAK ALL SHARP EDGES.<br>REMOVE BURRS,FINS,FLASH & PROJECTIONS |

MODIFICHE / REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-Q-1135 RELEASED FOR TOOLING. | 79309<br>05 NOV. 2001 | S.C.<br>M.V. |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 79309 | PART .No/DWG .NO.<br>3256-Q-1135 | | 9117 |
| APPLY SPECIFIED MERITOR MARKINGS PER A. O. ENGINEERING STANDARD D-004. | THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED,USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR | MATERIALE/MATERIAL<br>—— | | | | DELIBERA/RELEASE | DENOMINAZIONE/NAME<br>ABS SENSOR ALIGNMENT TOOL | | CODICE MECCANOGR. ENG.DESC. CODE |
| | | TRATTAMENTO/PROCESS | VISTI/APPROVED<br>UFF.TEC.ING. PROJ ENG. / MATERIALI MATERIAL / SPECIALI SPECIAL | DISEGNATORE DRAWN BY, M. VIGANO 5 NOV. 2001 | CONTROLL.DA CHECKED BY S. CATTANEO 5 NOV. 2001 | | MERITOR. | | METRIC |
| IN.-10THS. 1 2 3 10 20 30 40 50 60 70 80 MM | PESO/WEIGHT GREZZO/RGH. FINITO/FIN. | DERIVATO No/INQUIRY NO. | RICHIESTA COSTI No/C.R./T.E. NO.<br>APPROV.STANZ.N /APP.NO. RCVC-872 | TIPO BASE/ORIGINAL FOR U-167E | SCALA/SCALE —— | DIS. CONTR. DAL GR. DESIGN CONTROL GROUP CVC CAMERI | PART NO. | | |

| LAYOUT NO. | |
|---|---|

SIM.PARTS

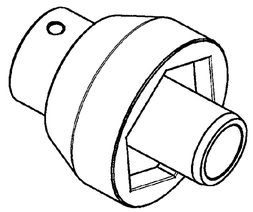
INTERPRET DRAWING PER A.O. ENG. STDS. DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER A.O.DRM STD Z-001-2
FORGING TOLERANCES +1.6-0.8 DRAFTS 7°±1°
OTHERWISE TOLS.±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS,FINS,FLASH & PROJECTIONS.

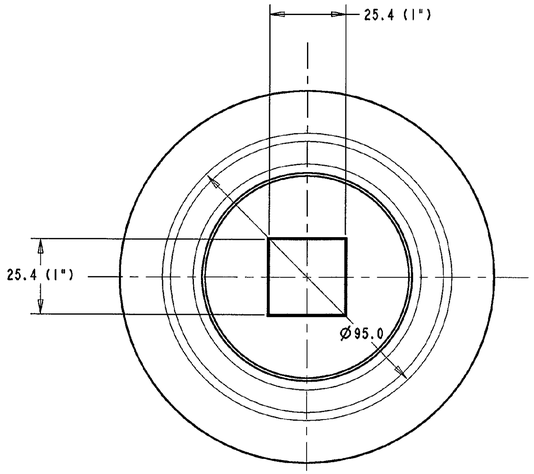
FINISH ALLOWANCE

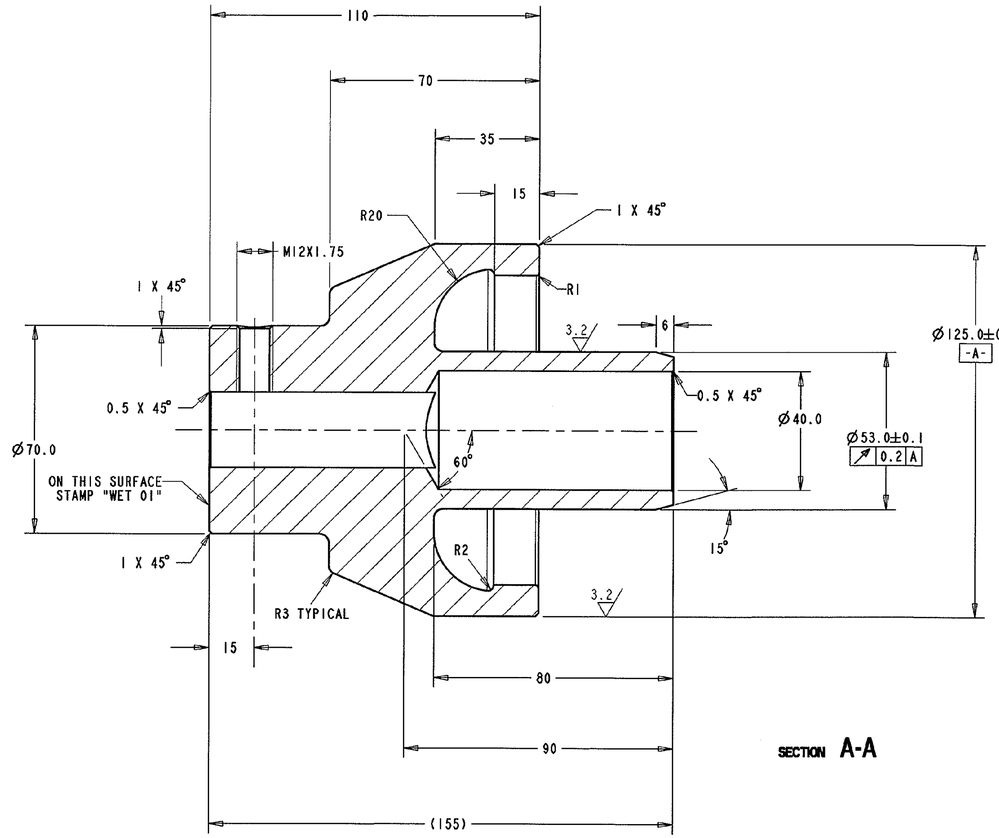
| | | |
|---|---|---|
| F1 | = | 0.8 |
| F2 | = | 1.6 |
| F3 | = | 2.4 |
| F4 | = | 3.2 |
| F5 | = | 4.0 |
| F6 | = | 4.8 |
| F8 | = | 6.4 |
| F10 | = | 8.0 |

REVISIONS

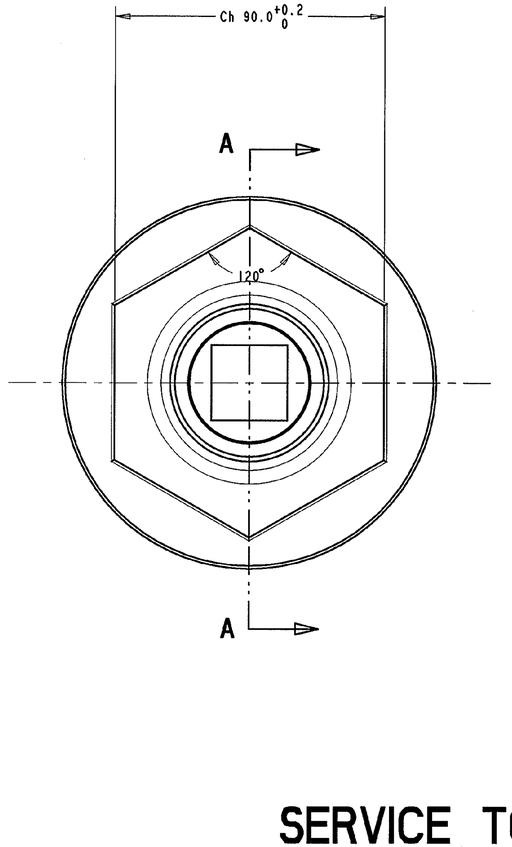
| | | | |
|---|---|---|---|
| A | 3256-L-1104 RELEASED FOR TOOLING | 70388 07 OCT 99 | M.P. M.L. |






SECTION A-A




# SERVICE TOOL
# REF. - WET 01

| | | | |
|---|---|---|---|
| APPLY SPECIFIED MERITOR MARKINGS PER A.O. ENGINEERING STANDARD D-004 | THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITOUT THE PRIOR WRITTEN PERMISSION OF MERITOR. | MATERIAL A.O. SPEC. B-47 | |
| 1 2 3 4 IN. 10THS. 10 20 30 40 50 60 70 80 90 100MM | WEIGHT RGH./FIN. 5.349 KGS | PROCESS A.O. SPEC. 21-CW | |
| | INQUIRY NO. | C.R./T.E. NO. APP. NO. RCVC-704 | |

| APPROVED PROJ.ENG. | MATERIAL | SPECIAL | DRAWN BY | CHECKED BY | 3RD ANGLE PROJECTION |
|---|---|---|---|---|---|
| | | | M.LUPI 8-JUL-99 | M.PONTANARI 8-JUL-99 | |

| ORIGINAL FOR | SCALE | DESIGN CONTROL GROUP | PART NO. |
|---|---|---|---|
| H-127E | 1:1 | CAMERI | |

| 70388 | PART/DWG NO. 3256-L-1104 | 3923 |
|---|---|---|
| RELEASE | NAME WRENCH FOR WHEEL HUB BEARING ADJUSTMENT NUT | ENG.DESC. CODE |
| | MERITOR. METRIC | |

DO NOT CHANGE MANUALLY
SOLID MODELING CENTER

| LAYOUT NO. | |
|---|---|
| SIM. PARTS | |

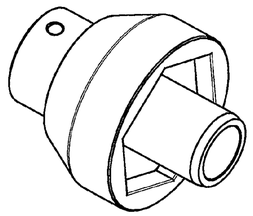
INTERPRET DRAWING PER A.O. ENG. STDS. DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER A.O.DRM STD Z-001-2
FORGING TOLERANCES +1.6-0.8 DRAFTS 7°±1°
OTHERWISE TOLS.±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS,FINS,FLASH & PROJECTIONS.

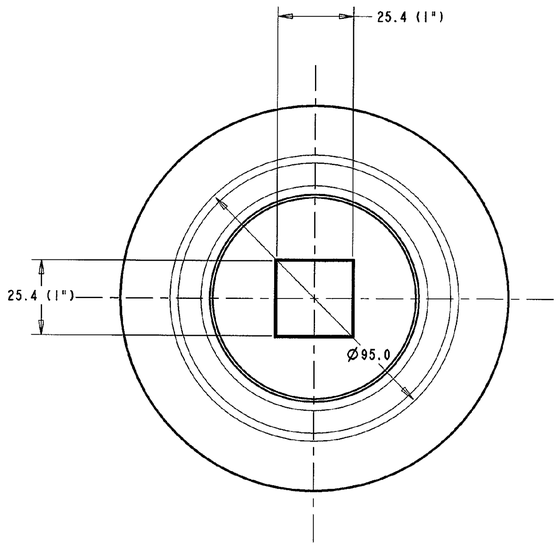
FINISH ALLOWANCE

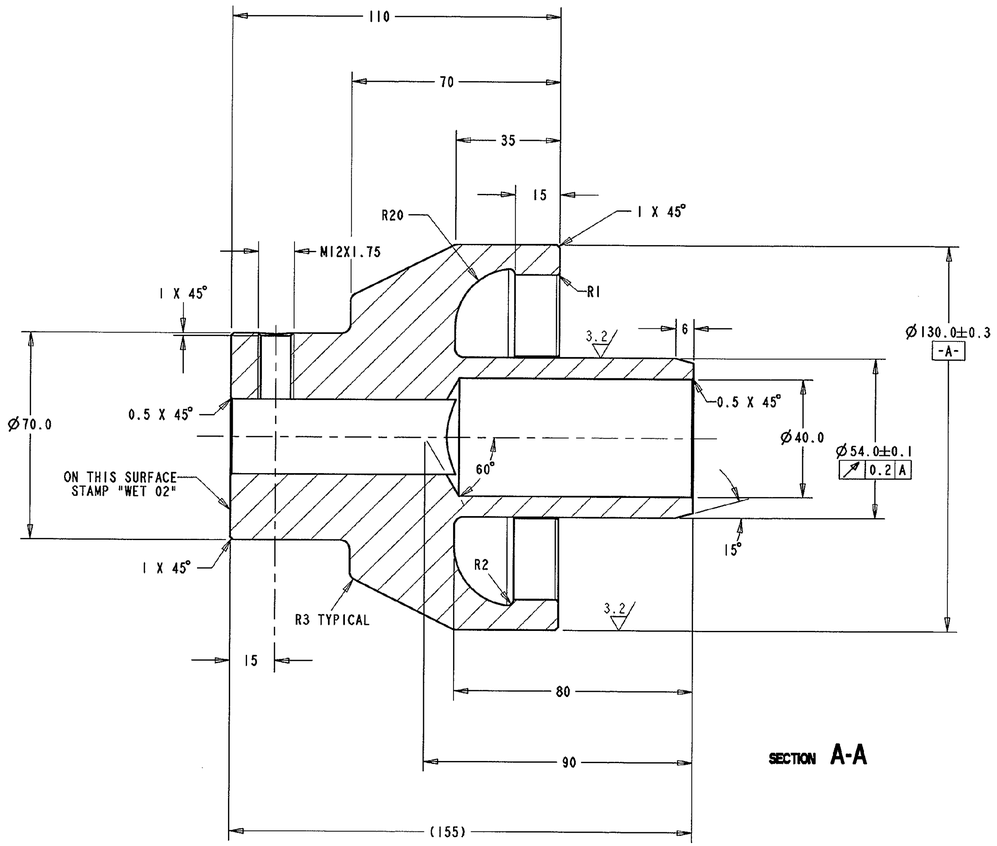
F1 = 0.8
F2 = 1.6
F3 = 2.4
F4 = 3.2
F5 = 4.0
F6 = 4.8
F8 = 6.4
F10 = 8.0

REVISIONS

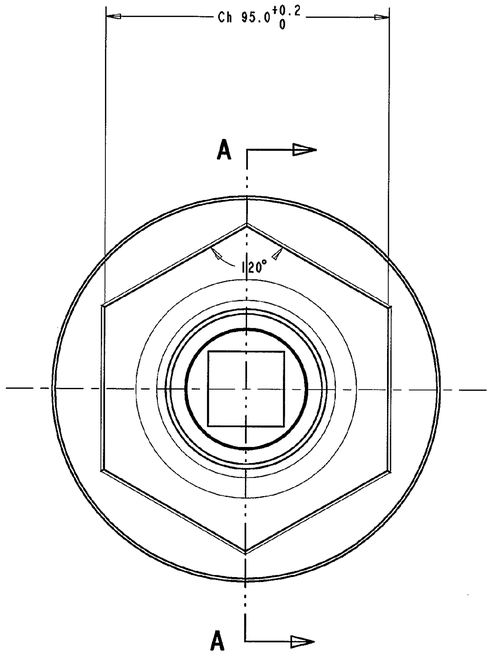
| | | | |
|---|---|---|---|
| A | 3256-M-1105 RELEASED FOR TOOLING | 70388 07 OCT 99 | M.P. M.L. |






SECTION A-A




# SERVICE TOOL
# REF. - WET 02

| | | | |
|---|---|---|---|
| APPLY SPECIFIED MERITOR MARKINGS PER A.O. ENGINEERING STANDARD D-004 | THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITOUT THE PRIOR WRITTEN PERMISSION OF MERITOR. | MATERIAL: A.O. SPEC. B-47 | 70388 RELEASE | PART/DWG NO. 3256-M-1105 | 3923 ENG. DESC. CODE |
| | | PROCESS: A.O. SPEC. 21-CW | | NAME: WRENCH FOR WHEEL HUB BEARING ADJUSTMENT NUT | |
| 1 2 3 4 IN. 10THS. 10 20 30 40 50 60 70 80 90 100MM | WEIGHT RGH./FIN. 5.563 KGS | INQUIRY NO. | APPROVED: PROJ.ENG. / MATERIAL / SPECIAL | DRAWN BY: M.LUPI 8-JUL-99 | CHECKED BY: M.PONTANARI 8-JUL-99 | 3RD ANGLE PROJECTION | MERITOR. METRIC |
| | | C.R./T.E. NO. APP. NO. RCVC-738 | ORIGINAL FOR: R-147E | SCALE: 1:1 | DESIGN CONTROL GROUP: CAMERI | PART NO. |

DO NOT CHANGE MANUALLY
SOLID MODELING CENTER

| | LAYOUT NO. | |
|---|---|---|

SIM.PARTS

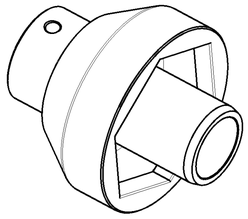
INTERPRET DRAWING PER A.O. ENG. STDS. DRM.
UNLESS OTHERWISE SPECIFIED:
- ALL DIMENSIONS IN MILLIMETERS.
- CASTING TOLERANCES PER A.O.DRM STD Z-001-2
- FORGING TOLERANCES +1.6-0.8 DRAFTS 7°±1°
- OTHERWISE TOLS.±0.40 ON 2-PLACE DECIMALS
  ±0.80 ON 1-PLACE DECIMALS
  ±1° ON ANGULAR DIMENSIONS
- ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
- BREAK ALL SHARP EDGES.
- REMOVE ALL BURRS,FINS,FLASH & PROJECTIONS.

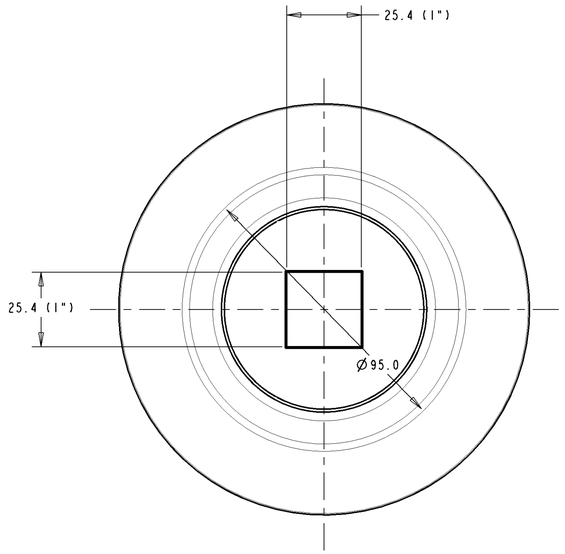
FINISH ALLOWANCE

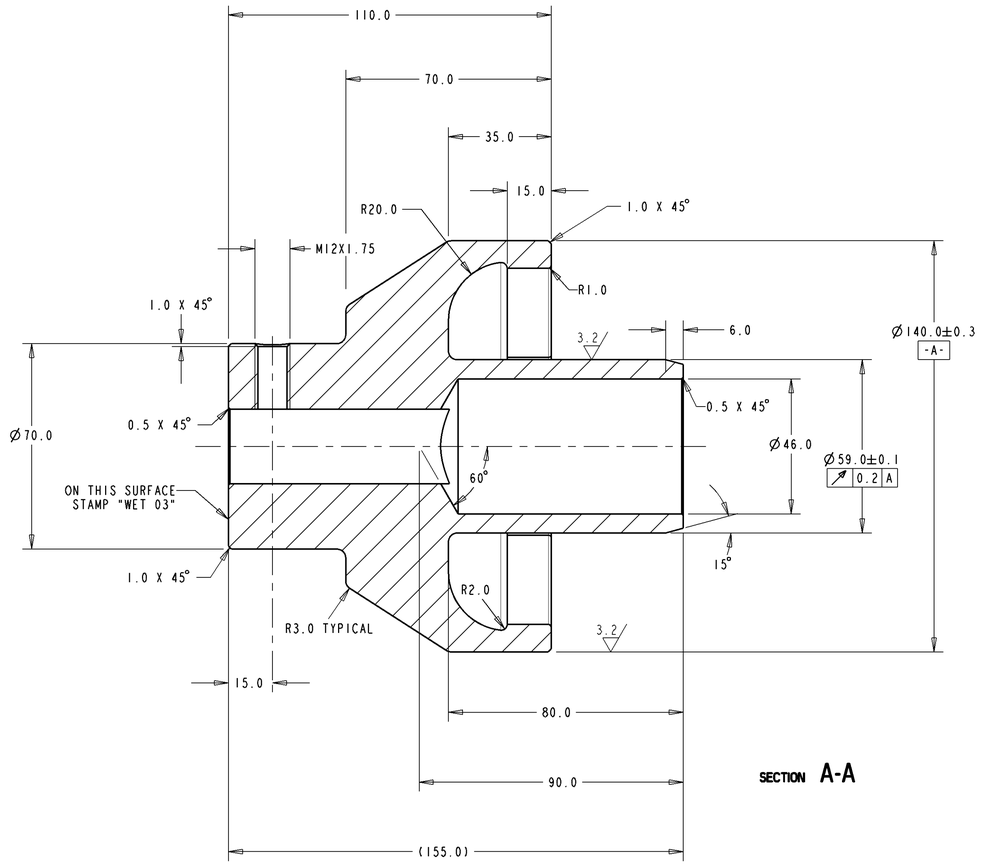
| | |
|---|---|
| F1 | 0.8 |
| F2 | 1.6 |
| F3 | 2.4 |
| F4 | 3.2 |
| F5 | 4.0 |
| F6 | 4.8 |
| F8 | 6.4 |
| F10 | 8.0 |

REVISIONS

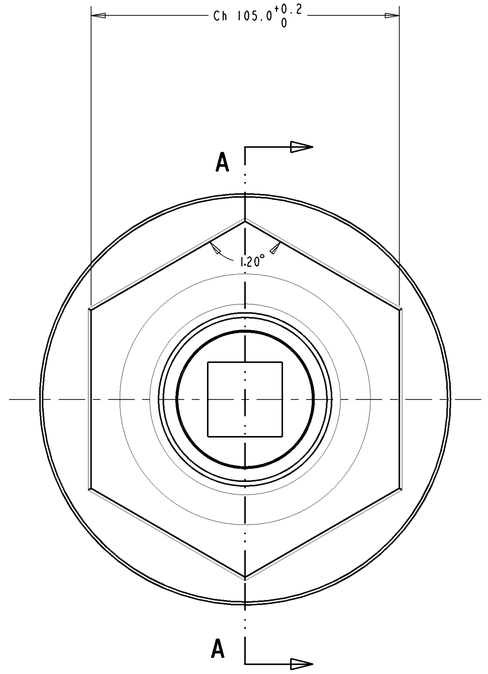
| | | | |
|---|---|---|---|
| A | 3256-L-1130 RELEASED FOR TOOLING | 78365<br>30 AUG. 01 | M.P.<br>P.P. |
| | | | |






SECTION A-A

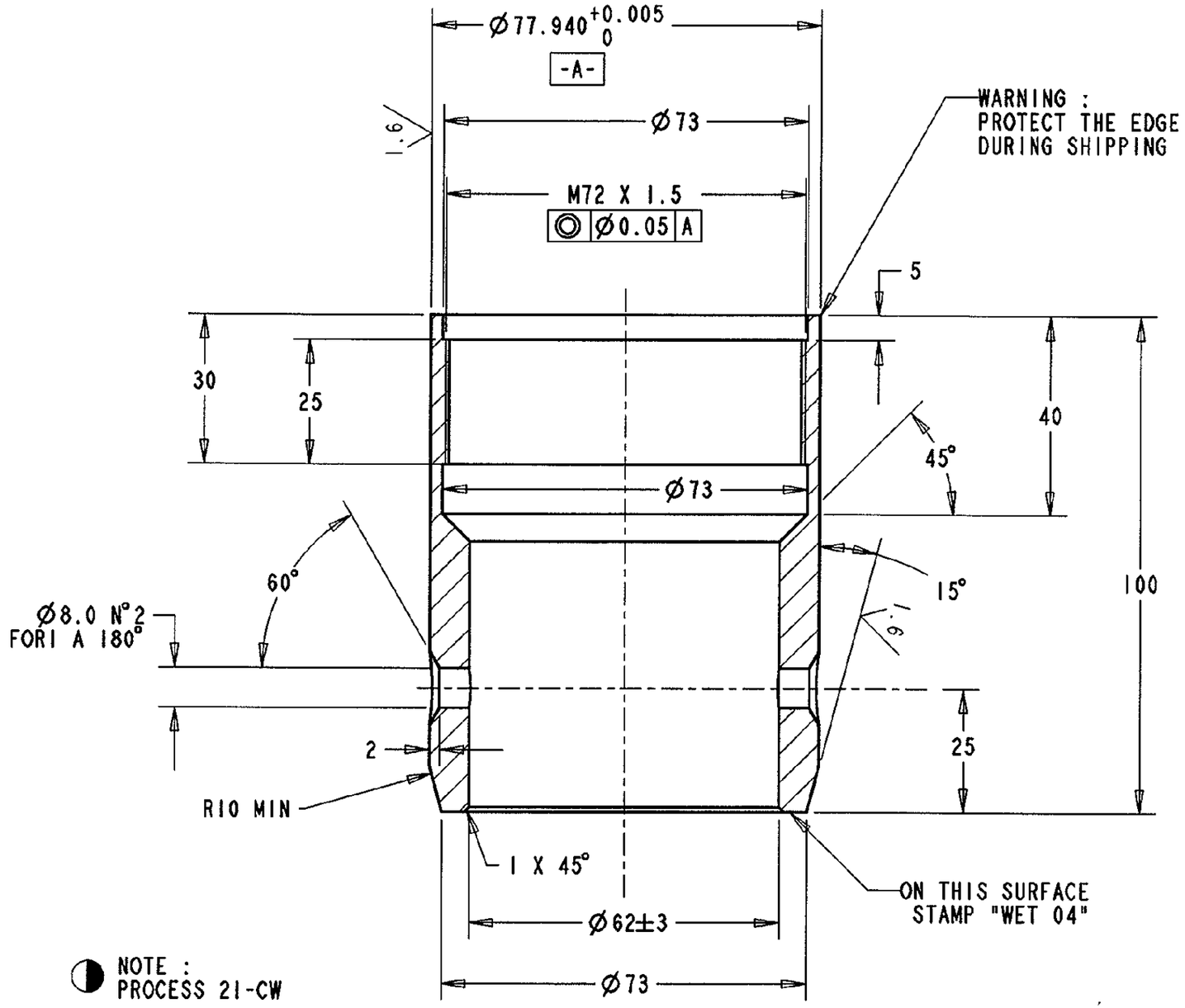



# SERVICE TOOL
# REF. - WET 03

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| APPLY SPECIFIED MERITOR MARKINGS PER A.O. ENGINEERING STANDARD D-004 | THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITOUT THE PRIOR WRITTEN PERMISSION OF MERITOR. | MATERIAL A.O. SPEC. B-47 | | | | | | 78365 | PART/DWG NO. 3256-L-1130 | 3923 |
| | | PROCESS A.O. SPEC. 21-CW | APPROVED: PROJ.ENG. / MATERIAL / SPECIAL | DRAWN BY PUGNO 30 AUG. 01 | CHECKED BY M.PONTANARI 30 AUG. 01 | 3RD ANGLE PROJECTION | DRAWING SIZE D | RELEASE | NAME WRENCH FOR WHEEL HUB BEARING ADJUSTMENT NUT | ENG.DESC. CODE |
| 1 2 3 4 IN. 10THS. 10 20 30 40 50 60 70 80 90 100MM | WEIGHT RGH./FIN. 5.563 KGS | INQUIRY NO. | C.R./T.E. NO. APP. NO. RCVC-872 | | ORIGINAL FOR U-177E | SCALE 1:1 | DESIGN CONTROL GROUP CAMERI | | MERITOR. | METRIC |
| | | | | | | | | PART NO. | | |




| | LAYOUT NO. | |
|---|---|---|

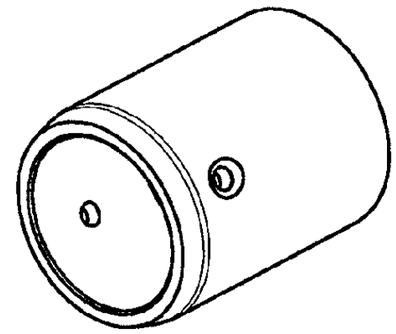
SIM. PARTS

INTERPRET DWG. PER AO ENG STDS DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRM STD Z-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS 7°±1°
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS,FINS,FLASH & PROJECTIONS

FINISH ALLOWANCE
F1 = 0.8
F2 = 1.6
F3 = 2.4
F4 = 3.2
F5 = 4.0
F6 = 4.8
F8 = 6.4
F10 = 8.0

REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-N-1106 RELEASED FOR TOOLING | 70388 08 OCT 99 | M.P. M.L. |



# SERVICE TOOL
# REF. - WET 04

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER

APPLY SPECIFIED MERITOR MARKINGS PER A. O. ENGINEERING STANDARD D-004.

THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR.

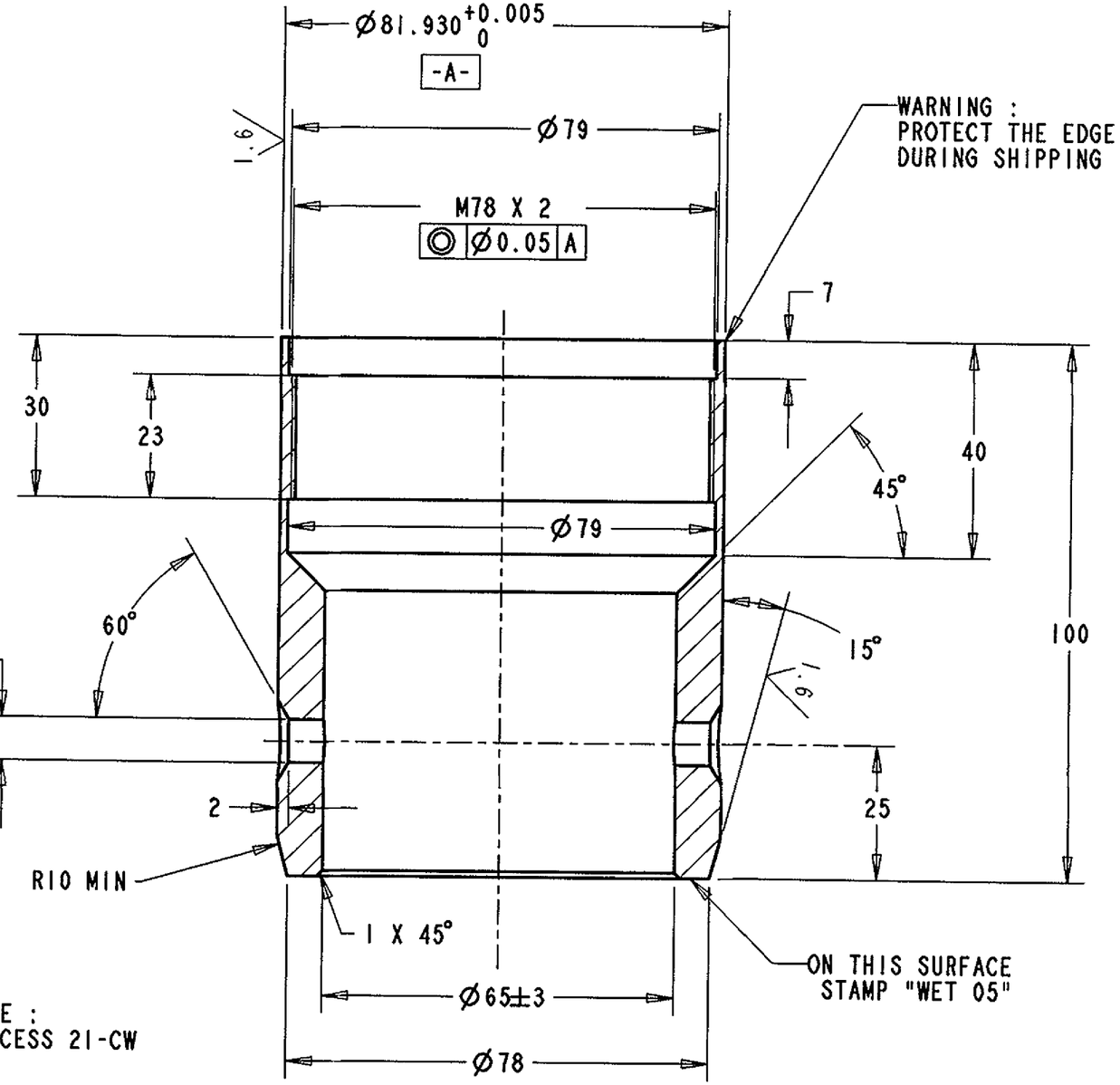
MATERIAL: A.O. SPEC. B-110
PROCESS: A.O. SPEC. 661-D ◑

| APPROVED | | | DRAWN BY | CHECKED BY | 3RD ANGLE PROJECTION |
|---|---|---|---|---|---|
| PROJ ENG. | MATERIAL | SPECIAL | M.LUPI 28-Jun-99 | M.FONTANARI 30-Jun-99 | |

| | | | |
|---|---|---|---|
| 70388 | PART/DWG NO. 3256-N-1106 | | 9117 |
| RELEASE | NAME GUIDE TO INSTALL WHEEL HUB | | ENG. DESC. CODE |
| | MERITOR. | METRIC | |

IN.-10THS. 1 2 3
10 20 30 40 50 60 70 80 MM

| WEIGHT RGH/FIN | INQUIRY NO. | C.R./T.E. NO. APP. NO. | ORIGINAL FOR | SCALE | DESIGN CONTROL GROUP | PART NO. |
|---|---|---|---|---|---|---|
| 1.201 KGS | | RCVC-704 | H-127E | 1:1 | CAMERI | |



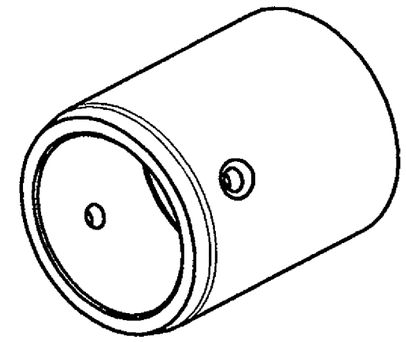

| | LAYOUT NO. | |
|---|---|---|
| SIM. PARTS | | |

INTERPRET DWG. PER AO ENG STDS DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRM STD Z-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS 7°±1°
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS, FINS, FLASH & PROJECTIONS

FINISH ALLOWANCE
F1 = 0.8
F2 = 1.6
F3 = 2.4
F4 = 3.2
F5 = 4.0
F6 = 4.8
F8 = 6.4
F10 = 8.0

REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-P-1108 RELEASED FOR TOOLING | 70388 08 10 99 | M.P. M.L. |



# SERVICE TOOL
# REF. - WET 05

APPLY SPECIFIED MERITOR MARKINGS PER A. O. ENGINEERING STANDARD D-004.

THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR.

MATERIAL: A.O. SPEC. B-110
PROCESS: A.O. SPEC. 661-D

| APPROVED | | | DRAWN BY | CHECKED BY | 3RD ANGLE PROJECTION |
|---|---|---|---|---|---|
| PROJ ENG. | MATERIAL | SPECIAL | M. LUPI 28-Jun-99 | M. PONTAMARI 30-Jun-99 | |

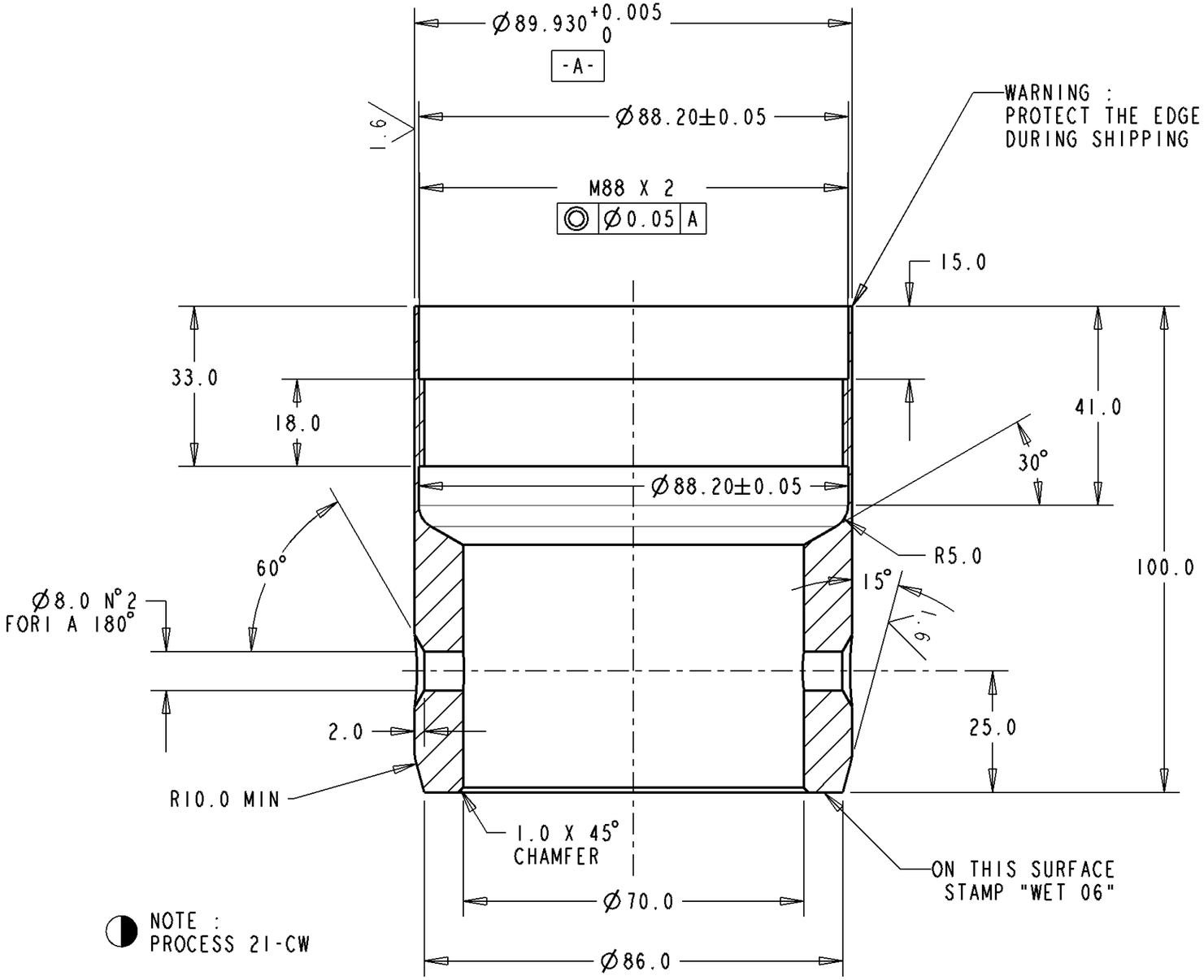
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| WEIGHT RGH/FIN | 1.201 KGS | INQUIRY NO. | C.R./T.E. NO. APP. NO. | RCVC-738 | ORIGINAL FOR | R-147E | SCALE 1:1 |

DESIGN CONTROL GROUP: CAMERI
PART NO.

| | | |
|---|---|---|
| 70388 | PART/DWG NO. 3256-P-1108 | 9117 |
| RELEASE | NAME GUIDE TO INSTALL WHEEL HUB | ENG. DESC. CODE |
| | MERITOR. | METRIC |

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER




| | LAYOUT NO. | |
|---|---|---|

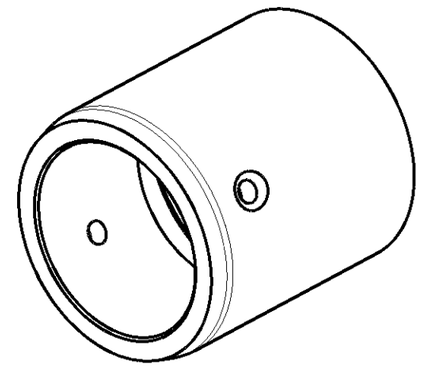
SIM.PARTS

INTERPRET DWG. PER AO ENG STDS DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRM STD Z-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS 7°±1°
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS, FINS, FLASH & PROJECTIONS

FINISH ALLOWANCE
F1 : 0.8
F2 : 1.6
F3 : 2.4
F4 : 3.2
F5 : 4.0
F6 : 4.8
F8 : 6.4
F10 : 8.0

REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-M-1131 RELEASED FOR TOOLING | 78365 30 AUG. 01 | M.P. P.P. |



# SERVICE TOOL
# REF. - WET 06

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER

APPLY SPECIFIED MERITOR MARKINGS PER A. O. ENGINEERING STANDARD D-004.

THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR.

MATERIAL: A.O. SPEC. B-110
PROCESS: A.O. SPEC. 661-D

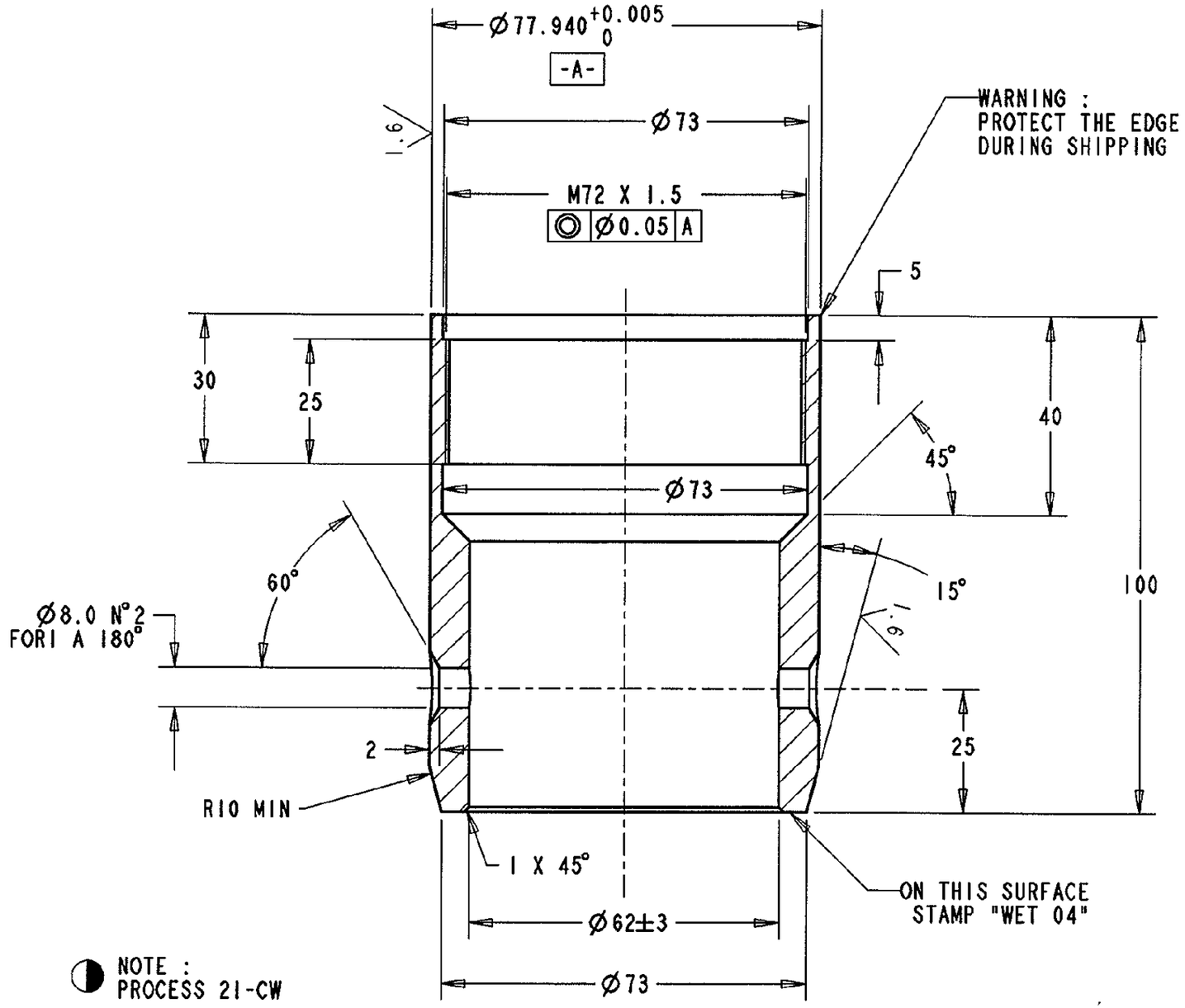
| APPROVED | | | DRAWN BY | CHECKED BY | 3RD ANGLE PROJECTION |
|---|---|---|---|---|---|
| PROJ ENG. | MATERIAL | SPECIAL | PUGNO 30 AUG. 01 | M.PONTANARI 30 AUG. 01 | |

| 78365 | PART/DWG NO. 3256-M-1131 | 9117 |
|---|---|---|
| RELEASE | NAME GUIDE TO INSTALL WHEEL HUB | ENG. DESC. CODE |

MERITOR™ METRIC

IN.-10THS. 1 2 3 — 10 20 30 40 50 60 70 80 MM

| WEIGHT RGH/FIN | INQUIRY NO. | C.R./T.E. NO. APP. NO. | ORIGINAL FOR | SCALE | DESIGN CONTROL GROUP | PART NO. |
|---|---|---|---|---|---|---|
| 1.201 KGS | | RCVC-872 | U-177E | 1:1 | CAMERI | |




| | LAYOUT NO. | |
|---|---|---|

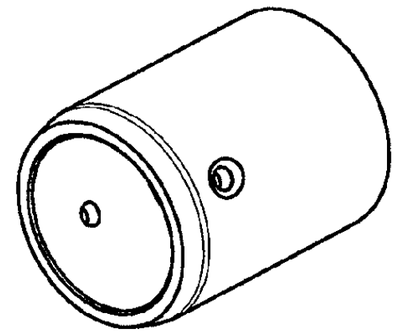
SIM. PARTS

INTERPRET DWG. PER AO ENG STDS DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRM STD Z-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS 7°±1°
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS,FINS,FLASH & PROJECTIONS

FINISH ALLOWANCE
F1 = 0.8
F2 = 1.6
F3 = 2.4
F4 = 3.2
F5 = 4.0
F6 = 4.8
F8 = 6.4
F10 = 8.0

REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-N-1106 RELEASED FOR TOOLING | 70388 08 OCT 99 | M.P. M.L. |



# SERVICE TOOL
# REF. - WET 04

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER

APPLY SPECIFIED MERITOR MARKINGS PER A. O. ENGINEERING STANDARD D-004.

THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR.

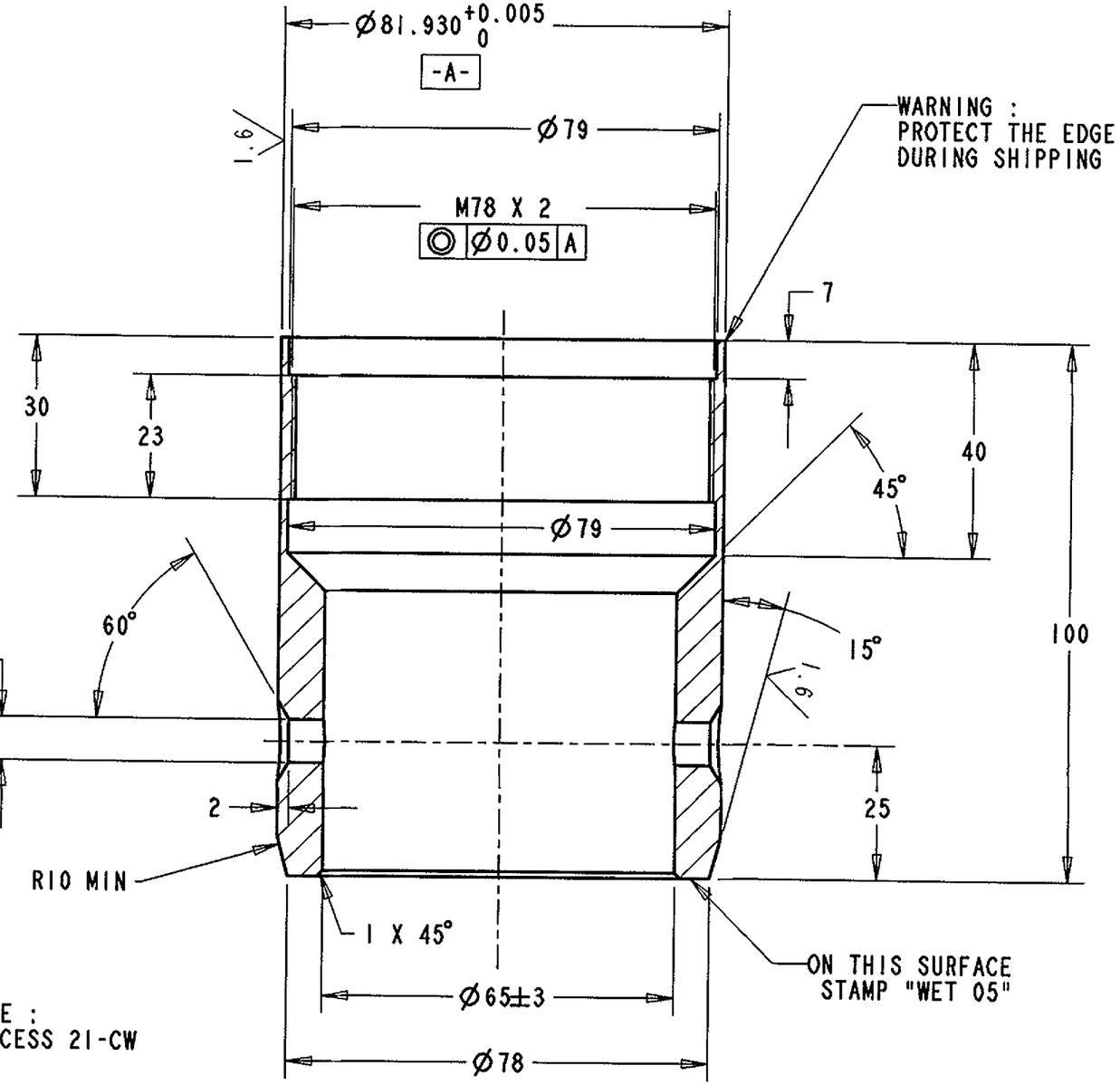
MATERIAL: A.O. SPEC. B-110
PROCESS: A.O. SPEC. 661-D ◑

| APPROVED | | | DRAWN BY | CHECKED BY | 3RD ANGLE PROJECTION |
|---|---|---|---|---|---|
| PROJ ENG. | MATERIAL | SPECIAL | M.LUPI 28-Jun-99 | M.FONTANARI 30-Jun-99 | |

| | | | |
|---|---|---|---|
| 70388 | PART/DWG NO. 3256-N-1106 | | 9117 |
| RELEASE | NAME GUIDE TO INSTALL WHEEL HUB | | ENG. DESC. CODE |
| | MERITOR. | METRIC | |

IN.-10THS. 1 2 3
10 20 30 40 50 60 70 80 MM

| WEIGHT RGH/FIN | INQUIRY NO. | C.R./T.E. NO. APP. NO. | ORIGINAL FOR | SCALE | DESIGN CONTROL GROUP | PART NO. |
|---|---|---|---|---|---|---|
| 1.201 KGS | | RCVC-704 | H-127E | 1:1 | CAMERI | |



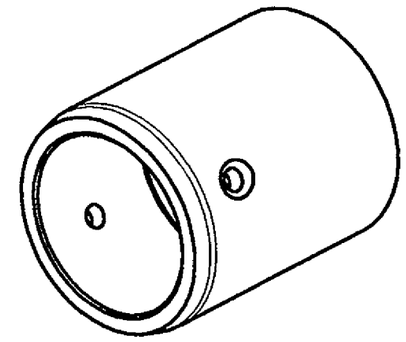

| | LAYOUT NO. | |
|---|---|---|
| SIM. PARTS | | |

INTERPRET DWG. PER AO ENG STDS DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRM STD Z-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS 7°±1°
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS, FINS, FLASH & PROJECTIONS

FINISH ALLOWANCE
F1 = 0.8
F2 = 1.6
F3 = 2.4
F4 = 3.2
F5 = 4.0
F6 = 4.8
F8 = 6.4
F10 = 8.0

REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-P-1108 RELEASED FOR TOOLING | 70388 08 10 99 | M.P. M.L. |



# SERVICE TOOL
# REF. - WET 05

APPLY SPECIFIED MERITOR MARKINGS PER A. O. ENGINEERING STANDARD D-004.

THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR.

MATERIAL: A.O. SPEC. B-110
PROCESS: A.O. SPEC. 661-D

| APPROVED | | | DRAWN BY | CHECKED BY | 3RD ANGLE PROJECTION |
|---|---|---|---|---|---|
| PROJ ENG. | MATERIAL | SPECIAL | M. LUPI 28-Jun-99 | M. PONTAMARI 30-Jun-99 | |

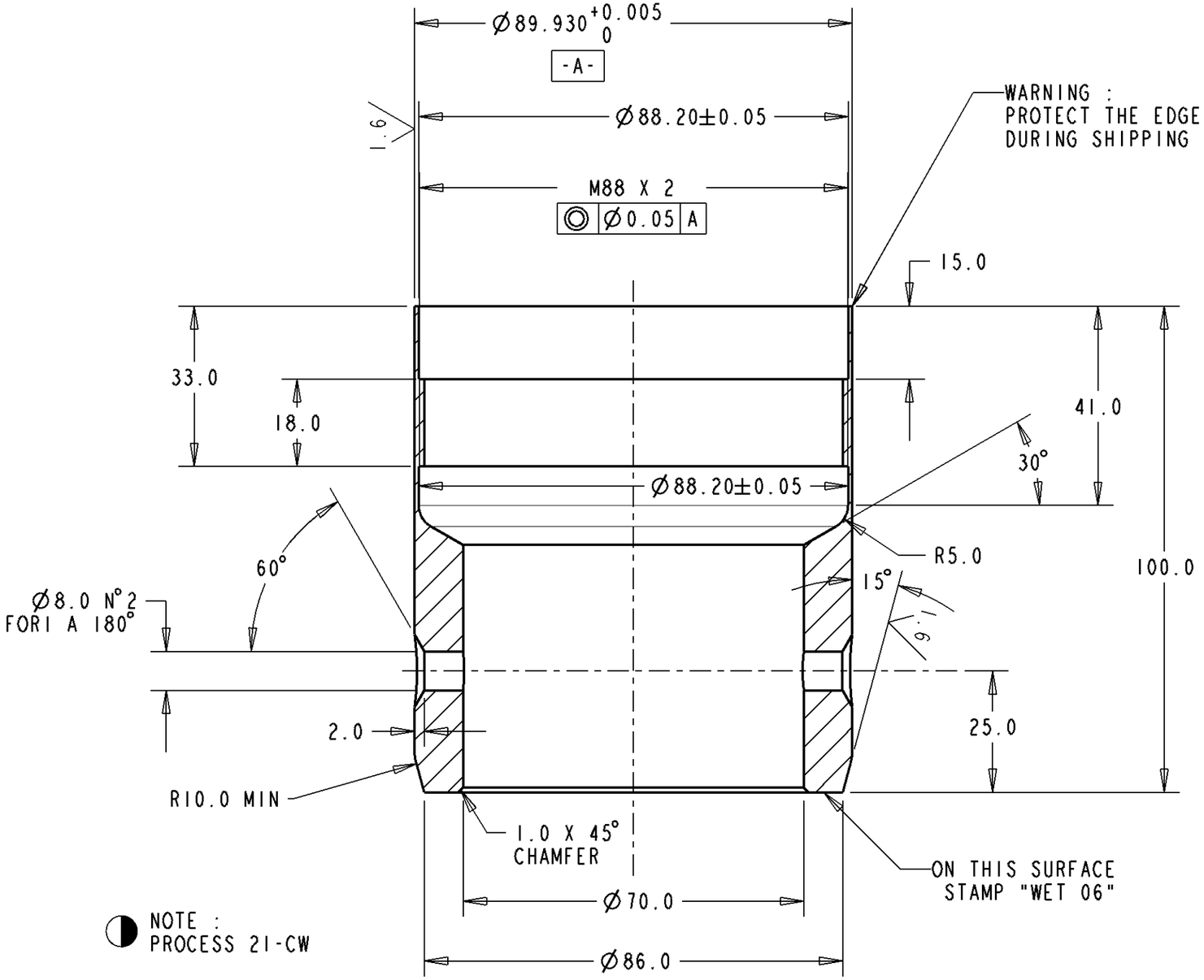
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| WEIGHT RGH/FIN | 1.201 KGS | INQUIRY NO. | C.R./T.E. NO. APP. NO. | RCVC-738 | ORIGINAL FOR | R-147E | SCALE 1:1 |

DESIGN CONTROL GROUP: CAMERI
PART NO.

| | | |
|---|---|---|
| 70388 | PART/DWG NO. 3256-P-1108 | 9117 |
| RELEASE | NAME GUIDE TO INSTALL WHEEL HUB | ENG. DESC. CODE |
| | MERITOR. | METRIC |

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER




| | LAYOUT NO. | |
|---|---|---|

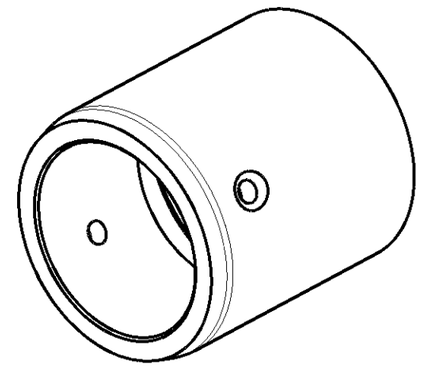
SIM.PARTS

INTERPRET DWG. PER AO ENG STDS DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRM STD Z-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS 7°±1°
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS, FINS, FLASH & PROJECTIONS

FINISH ALLOWANCE
F1 : 0.8
F2 : 1.6
F3 : 2.4
F4 : 3.2
F5 : 4.0
F6 : 4.8
F8 : 6.4
F10 : 8.0

REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-M-1131 RELEASED FOR TOOLING | 78365 30 AUG. 01 | M.P. P.P. |



# SERVICE TOOL
# REF. - WET 06

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER

APPLY SPECIFIED MERITOR MARKINGS PER A. O. ENGINEERING STANDARD D-004.

THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR.

MATERIAL: A.O. SPEC. B-110
PROCESS: A.O. SPEC. 661-D

| APPROVED | | | DRAWN BY | CHECKED BY | 3RD ANGLE PROJECTION |
|---|---|---|---|---|---|
| PROJ ENG. | MATERIAL | SPECIAL | PUGNO 30 AUG. 01 | M.PONTANARI 30 AUG. 01 | |

| 78365 | PART/DWG NO. 3256-M-1131 | 9117 |
|---|---|---|
| RELEASE | NAME GUIDE TO INSTALL WHEEL HUB | ENG. DESC. CODE |

MERITOR™ METRIC

IN.-10THS. 1 2 3 — 10 20 30 40 50 60 70 80 MM

| WEIGHT RGH/FIN | INQUIRY NO. | C.R./T.E. NO. APP. NO. | ORIGINAL FOR | SCALE | DESIGN CONTROL GROUP | PART NO. |
|---|---|---|---|---|---|---|
| 1.201 KGS | | RCVC-872 | U-177E | 1:1 | CAMERI | |

| LAYOUT NO. | |
|---|---|

SIM.PARTS

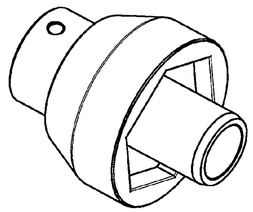
INTERPRET DRAWING PER A.O. ENG. STDS. DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER A.O.DRM STD Z-001-2
FORGING TOLERANCES +1.6-0.8 DRAFTS 7°±1°
OTHERWISE TOLS.±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS,FINS,FLASH & PROJECTIONS.

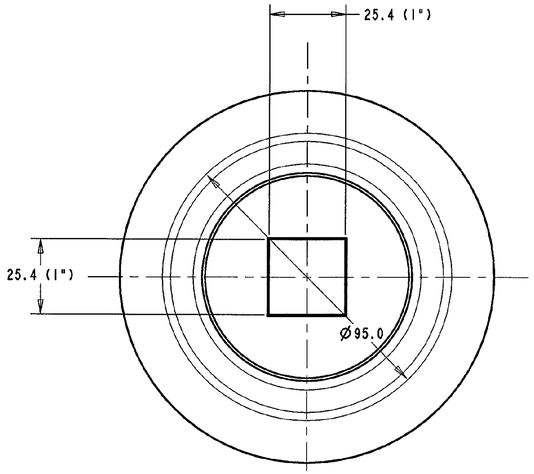
FINISH ALLOWANCE

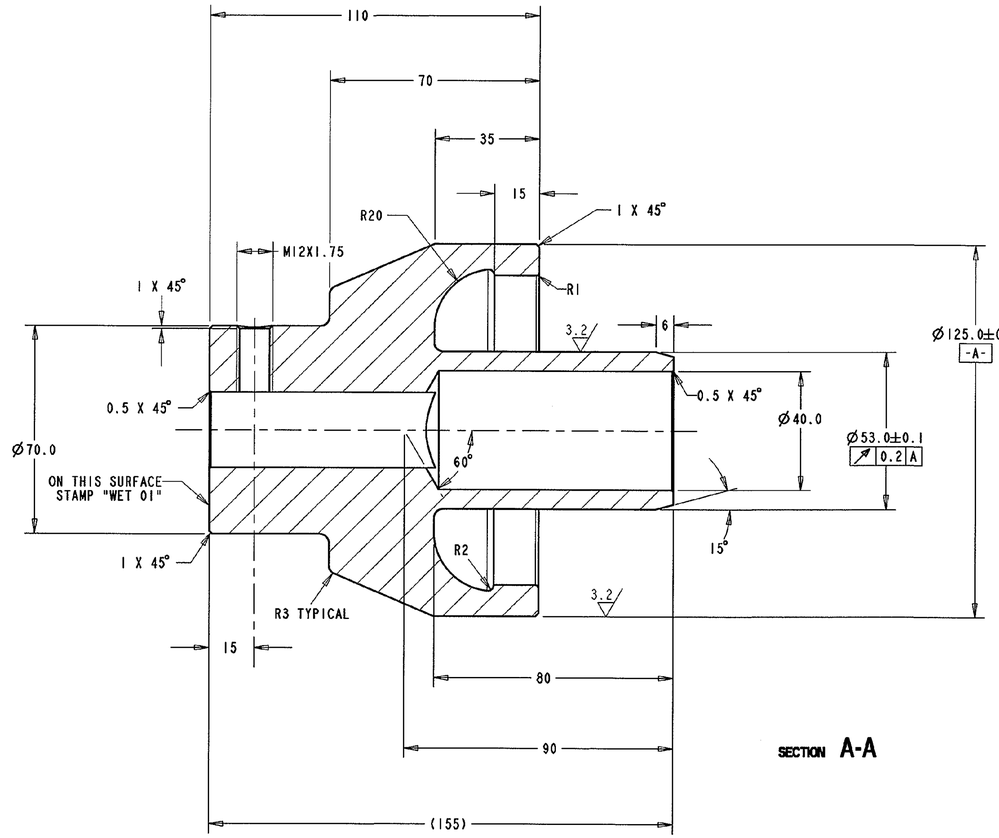
| | | |
|---|---|---|
| F1 | = | 0.8 |
| F2 | = | 1.6 |
| F3 | = | 2.4 |
| F4 | = | 3.2 |
| F5 | = | 4.0 |
| F6 | = | 4.8 |
| F8 | = | 6.4 |
| F10 | = | 8.0 |

REVISIONS

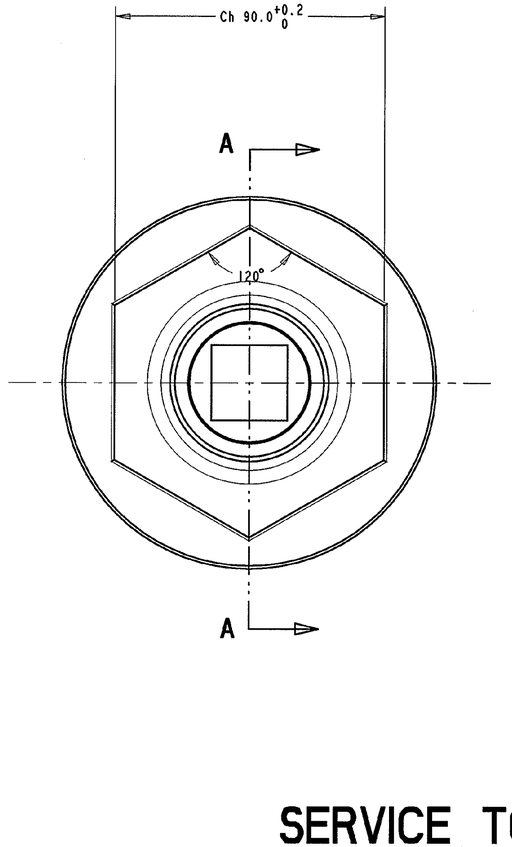
| | | | |
|---|---|---|---|
| A | 3256-L-1104 RELEASED FOR TOOLING | 70388 07 OCT 99 | M.P. M.L. |






SECTION A-A




# SERVICE TOOL
# REF. - WET 01

| | | | |
|---|---|---|---|
| APPLY SPECIFIED MERITOR MARKINGS PER A.O. ENGINEERING STANDARD D-004 | THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITOUT THE PRIOR WRITTEN PERMISSION OF MERITOR. | MATERIAL A.O. SPEC. B-47 | |
| 1 2 3 4 IN. 10THS. 10 20 30 40 50 60 70 80 90 100MM | WEIGHT RGH./FIN. 5.349 KGS | PROCESS A.O. SPEC. 21-CW | |
| | INQUIRY NO. | C.R./T.E. NO. APP. NO. RCVC-704 | |

| APPROVED PROJ.ENG. | MATERIAL | SPECIAL | DRAWN BY | CHECKED BY | 3RD ANGLE PROJECTION |
|---|---|---|---|---|---|
| | | | M.LUPI 8-JUL-99 | M.PONTANARI 8-JUL-99 | |

| ORIGINAL FOR | SCALE | DESIGN CONTROL GROUP | PART NO. |
|---|---|---|---|
| H-127E | 1:1 | CAMERI | |

| 70388 | PART/DWG NO. 3256-L-1104 | 3923 |
|---|---|---|
| RELEASE | NAME WRENCH FOR WHEEL HUB BEARING ADJUSTMENT NUT | ENG.DESC. CODE |
| | MERITOR. METRIC | |

DO NOT CHANGE MANUALLY
SOLID MODELING CENTER

| LAYOUT NO. | |
|---|---|
| SIM. PARTS | |

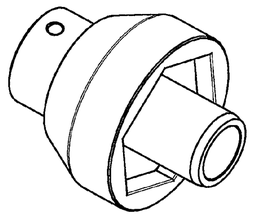
INTERPRET DRAWING PER A.O. ENG. STDS. DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER A.O.DRM STD Z-001-2
FORGING TOLERANCES +1.6-0.8 DRAFTS 7°±1°
OTHERWISE TOLS.±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS,FINS,FLASH & PROJECTIONS.

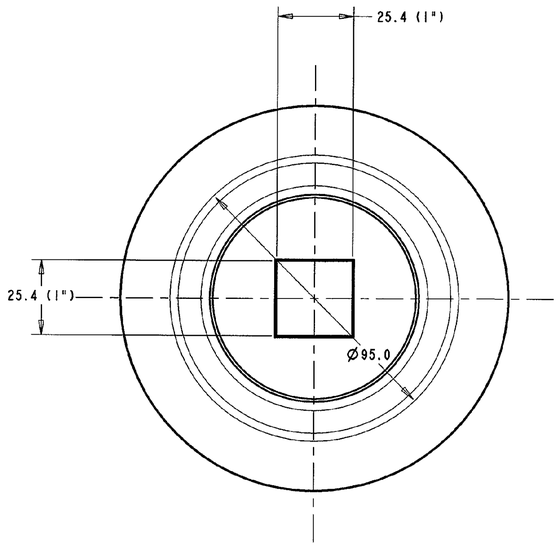
FINISH ALLOWANCE

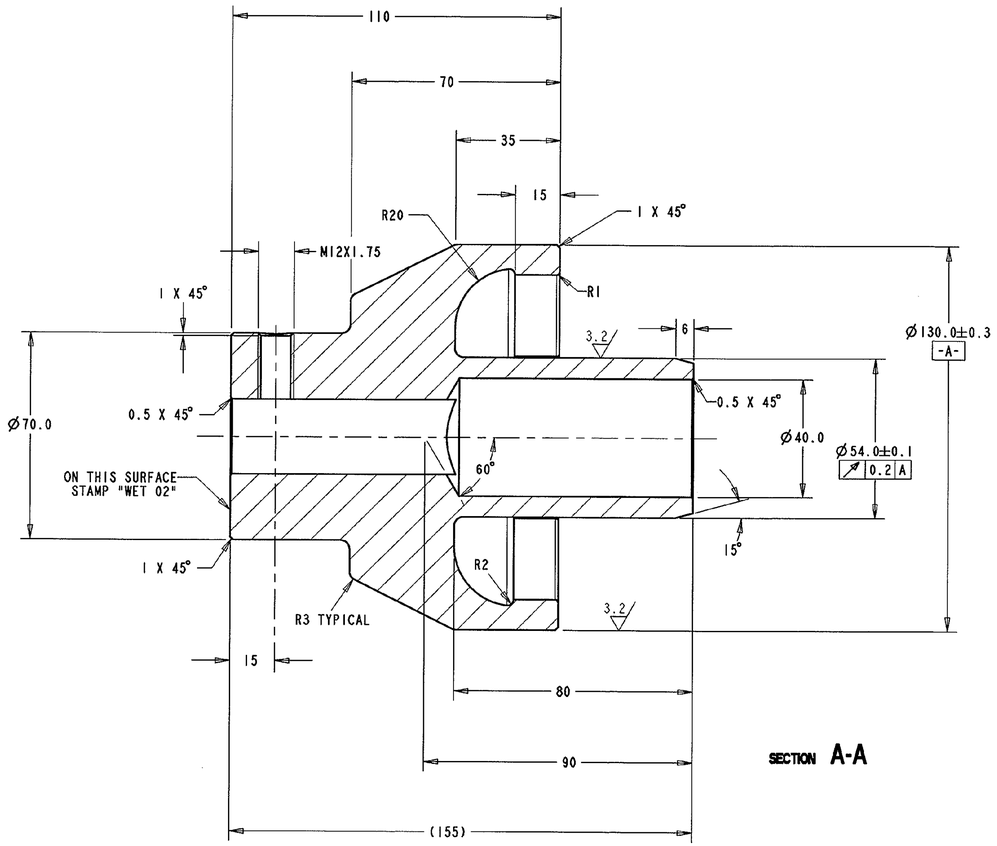
F1 = 0.8
F2 = 1.6
F3 = 2.4
F4 = 3.2
F5 = 4.0
F6 = 4.8
F8 = 6.4
F10 = 8.0

REVISIONS

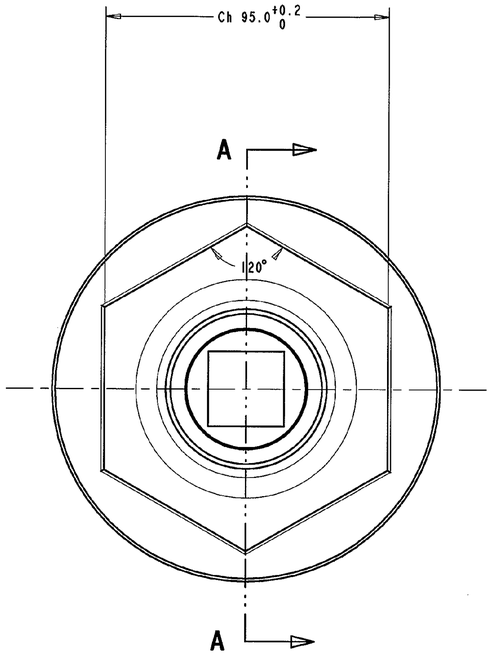
| | | | |
|---|---|---|---|
| A | 3256-M-1105 RELEASED FOR TOOLING | 70388 07 OCT 99 | M.P. M.L. |






SECTION A-A




# SERVICE TOOL
# REF. - WET 02

| | | | |
|---|---|---|---|
| APPLY SPECIFIED MERITOR MARKINGS PER A.O. ENGINEERING STANDARD D-004 | THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITOUT THE PRIOR WRITTEN PERMISSION OF MERITOR. | MATERIAL: A.O. SPEC. B-47 | 70388 RELEASE | PART/DWG NO. 3256-M-1105 | 3923 ENG. DESC. CODE |
| | | PROCESS: A.O. SPEC. 21-CW | | NAME: WRENCH FOR WHEEL HUB BEARING ADJUSTMENT NUT | |
| 1 2 3 4 IN. 10THS. 10 20 30 40 50 60 70 80 90 100MM | WEIGHT RGH./FIN. 5.563 KGS | INQUIRY NO. | APPROVED: PROJ.ENG. / MATERIAL / SPECIAL | DRAWN BY: M.LUPI 8-JUL-99 | CHECKED BY: M.PONTANARI 8-JUL-99 | 3RD ANGLE PROJECTION | MERITOR. METRIC |
| | | C.R./T.E. NO. APP. NO. RCVC-738 | ORIGINAL FOR: R-147E | SCALE: 1:1 | DESIGN CONTROL GROUP: CAMERI | PART NO. |

DO NOT CHANGE MANUALLY
SOLID MODELING CENTER

| | LAYOUT NO. | |
|---|---|---|

SIM.PARTS

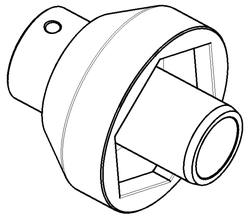
INTERPRET DRAWING PER A.O. ENG. STDS. DRM.
UNLESS OTHERWISE SPECIFIED:
- ALL DIMENSIONS IN MILLIMETERS.
- CASTING TOLERANCES PER A.O.DRM STD Z-001-2
- FORGING TOLERANCES +1.6-0.8 DRAFTS 7°±1°
- OTHERWISE TOLS.±0.40 ON 2-PLACE DECIMALS
  ±0.80 ON 1-PLACE DECIMALS
  ±1° ON ANGULAR DIMENSIONS
- ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
- BREAK ALL SHARP EDGES.
- REMOVE ALL BURRS,FINS,FLASH & PROJECTIONS.

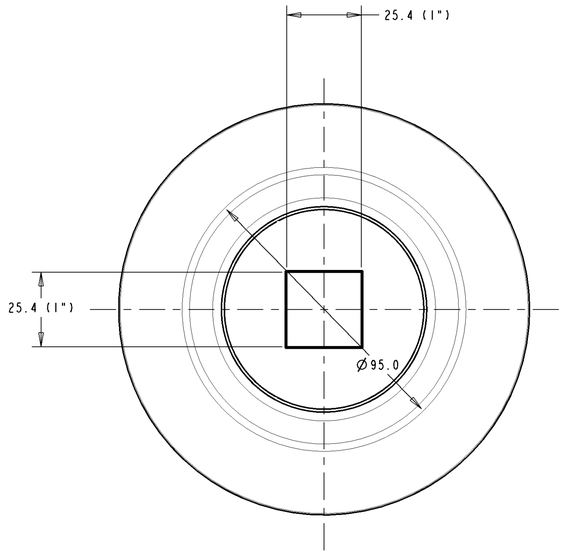
FINISH ALLOWANCE

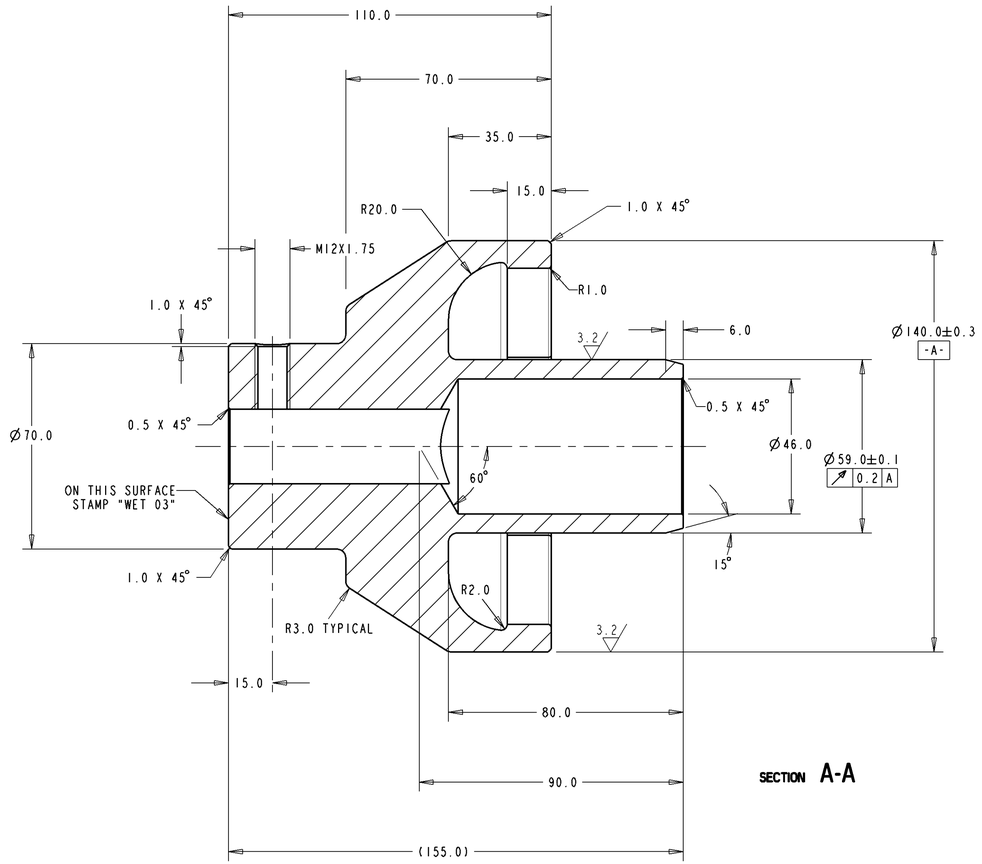
| | |
|---|---|
| F1 | 0.8 |
| F2 | 1.6 |
| F3 | 2.4 |
| F4 | 3.2 |
| F5 | 4.0 |
| F6 | 4.8 |
| F8 | 6.4 |
| F10 | 8.0 |

REVISIONS

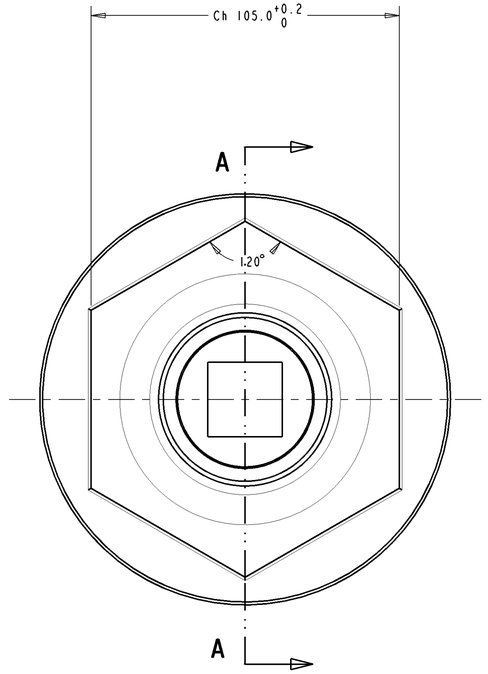
| | | | |
|---|---|---|---|
| A | 3256-L-1130 RELEASED FOR TOOLING | 78365<br>30 AUG. 01 | M.P.<br>P.P. |
| | | | |






SECTION A-A

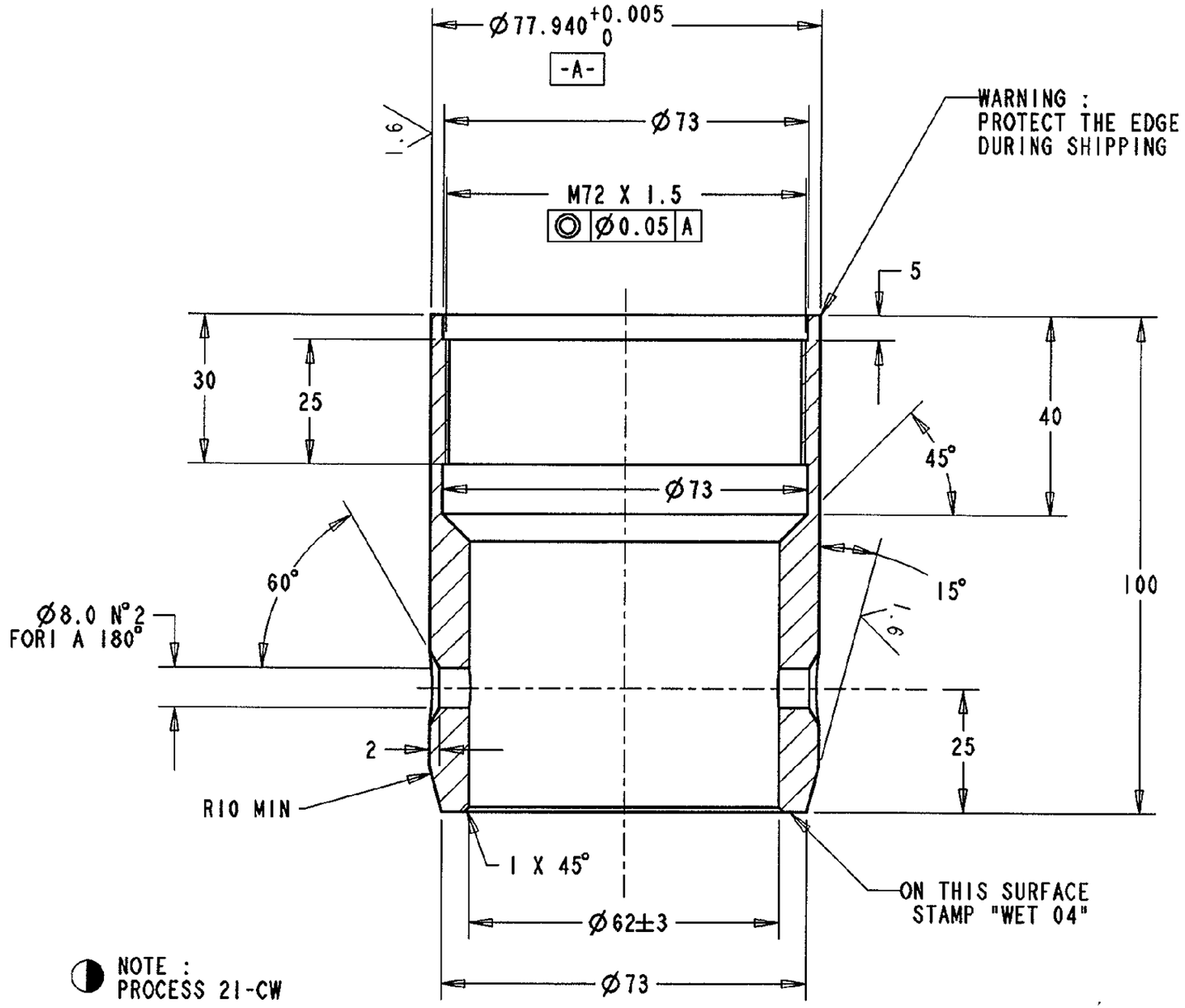



# SERVICE TOOL
# REF. - WET 03

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| APPLY SPECIFIED MERITOR MARKINGS PER A.O. ENGINEERING STANDARD D-004 | THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITOUT THE PRIOR WRITTEN PERMISSION OF MERITOR. | MATERIAL A.O. SPEC. B-47 | | | | | | 78365 | PART/DWG NO. 3256-L-1130 | 3923 |
| | | PROCESS A.O. SPEC. 21-CW | APPROVED: PROJ.ENG. / MATERIAL / SPECIAL | DRAWN BY PUGNO 30 AUG. 01 | CHECKED BY M.PONTANARI 30 AUG. 01 | 3RD ANGLE PROJECTION | DRAWING SIZE D | RELEASE | NAME WRENCH FOR WHEEL HUB BEARING ADJUSTMENT NUT | ENG.DESC. CODE |
| 1 2 3 4 IN. 10THS. 10 20 30 40 50 60 70 80 90 100MM | WEIGHT RGH./FIN. 5.563 KGS | INQUIRY NO. | C.R./T.E. NO. APP. NO. RCVC-872 | | ORIGINAL FOR U-177E | SCALE 1:1 | DESIGN CONTROL GROUP CAMERI | | MERITOR. | METRIC |
| | | | | | | | | PART NO. | | |




| | LAYOUT NO. | |
|---|---|---|

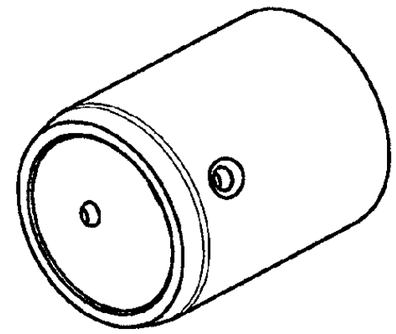
SIM. PARTS

INTERPRET DWG. PER AO ENG STDS DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRM STD Z-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS 7°±1°
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS,FINS,FLASH & PROJECTIONS

FINISH ALLOWANCE
F1 = 0.8
F2 = 1.6
F3 = 2.4
F4 = 3.2
F5 = 4.0
F6 = 4.8
F8 = 6.4
F10 = 8.0

REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-N-1106 RELEASED FOR TOOLING | 70388 08 OCT 99 | M.P. M.L. |



# SERVICE TOOL
# REF. - WET 04

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER

APPLY SPECIFIED MERITOR MARKINGS PER A. O. ENGINEERING STANDARD D-004.

THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR.

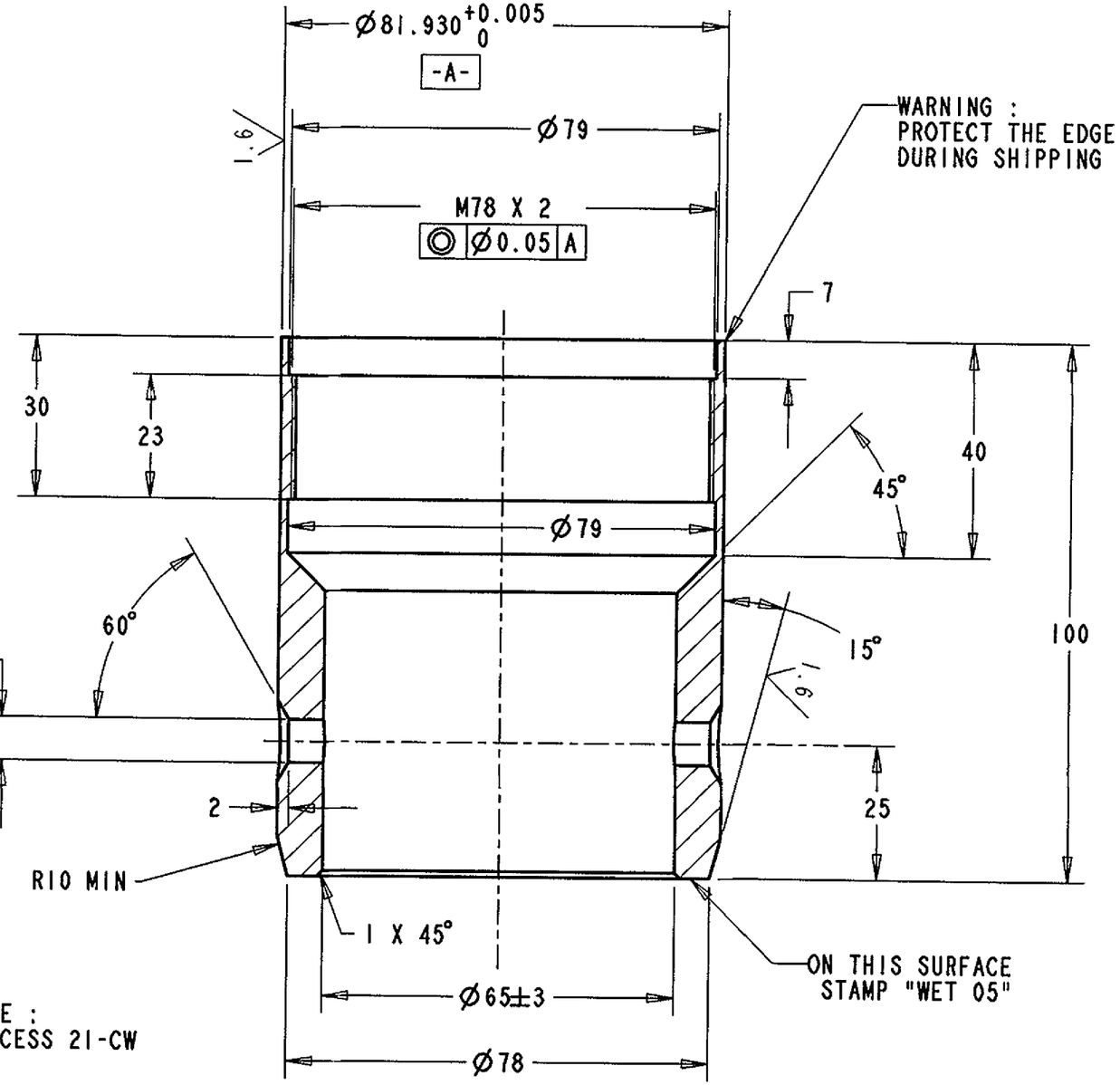
MATERIAL: A.O. SPEC. B-110
PROCESS: A.O. SPEC. 661-D ◑

| APPROVED | | | DRAWN BY | CHECKED BY | 3RD ANGLE PROJECTION |
|---|---|---|---|---|---|
| PROJ ENG. | MATERIAL | SPECIAL | M.LUPI 28-Jun-99 | M.FONTANARI 30-Jun-99 | |

| | | | |
|---|---|---|---|
| 70388 | PART/DWG NO. 3256-N-1106 | | 9117 |
| RELEASE | NAME GUIDE TO INSTALL WHEEL HUB | | ENG. DESC. CODE |
| | MERITOR. | METRIC | |

IN.-10THS. 1 2 3
10 20 30 40 50 60 70 80 MM

| WEIGHT RGH/FIN | INQUIRY NO. | C.R./T.E. NO. APP. NO. | ORIGINAL FOR | SCALE | DESIGN CONTROL GROUP | PART NO. |
|---|---|---|---|---|---|---|
| 1.201 KGS | | RCVC-704 | H-127E | 1:1 | CAMERI | |



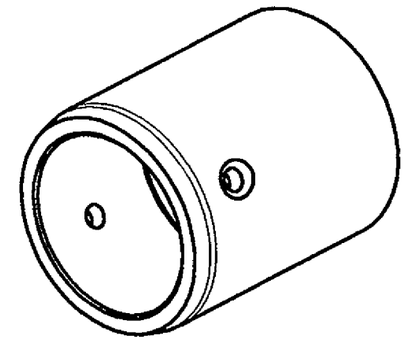

| | LAYOUT NO. | |
|---|---|---|
| SIM. PARTS | | |

INTERPRET DWG. PER AO ENG STDS DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRM STD Z-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS 7°±1°
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS, FINS, FLASH & PROJECTIONS

FINISH ALLOWANCE
F1 = 0.8
F2 = 1.6
F3 = 2.4
F4 = 3.2
F5 = 4.0
F6 = 4.8
F8 = 6.4
F10 = 8.0

REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-P-1108 RELEASED FOR TOOLING | 70388 08 10 99 | M.P. M.L. |



# SERVICE TOOL
# REF. - WET 05

APPLY SPECIFIED MERITOR MARKINGS PER A. O. ENGINEERING STANDARD D-004.

THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR.

MATERIAL: A.O. SPEC. B-110
PROCESS: A.O. SPEC. 661-D

| APPROVED | | | DRAWN BY | CHECKED BY | 3RD ANGLE PROJECTION |
|---|---|---|---|---|---|
| PROJ ENG. | MATERIAL | SPECIAL | M. LUPI 28-Jun-99 | M. PONTAMARI 30-Jun-99 | |

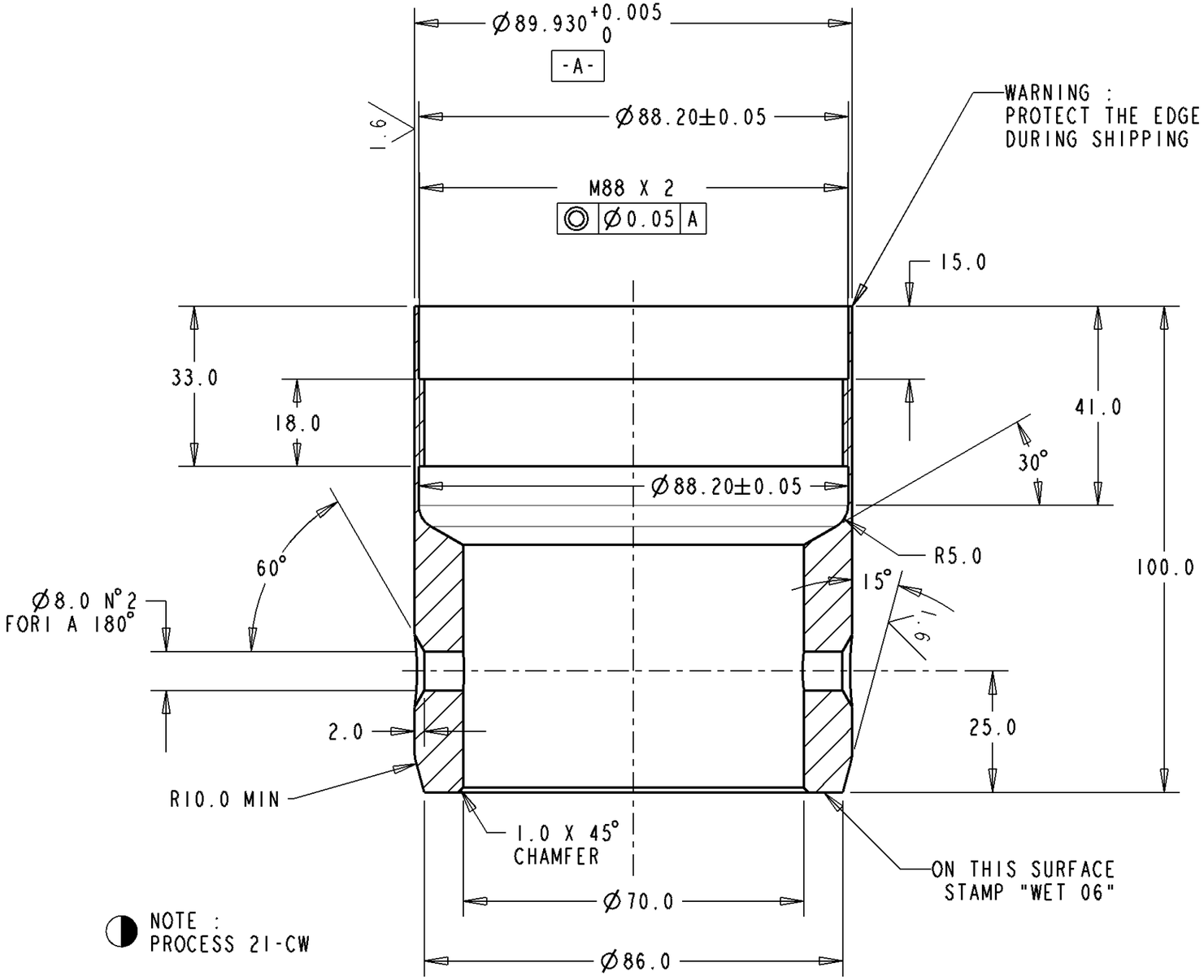
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| WEIGHT RGH/FIN | 1.201 KGS | INQUIRY NO. | C.R./T.E. NO. APP. NO. | RCVC-738 | ORIGINAL FOR | R-147E | SCALE 1:1 |

DESIGN CONTROL GROUP: CAMERI
PART NO.

| | | |
|---|---|---|
| 70388 | PART/DWG NO. 3256-P-1108 | 9117 |
| RELEASE | NAME GUIDE TO INSTALL WHEEL HUB | ENG. DESC. CODE |
| | MERITOR. | METRIC |

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER




| | LAYOUT NO. | |
|---|---|---|

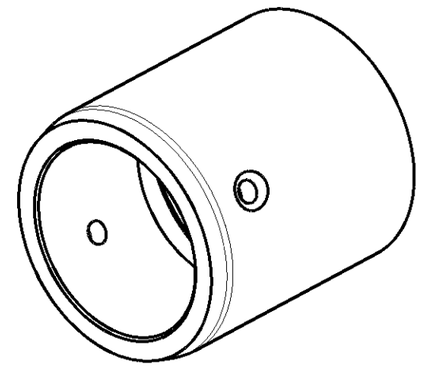
SIM.PARTS

INTERPRET DWG. PER AO ENG STDS DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRM STD Z-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS 7°±1°
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS, FINS, FLASH & PROJECTIONS

FINISH ALLOWANCE
F1 : 0.8
F2 : 1.6
F3 : 2.4
F4 : 3.2
F5 : 4.0
F6 : 4.8
F8 : 6.4
F10 : 8.0

REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-M-1131 RELEASED FOR TOOLING | 78365 30 AUG. 01 | M.P. P.P. |



# SERVICE TOOL
# REF. - WET 06

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER

APPLY SPECIFIED MERITOR MARKINGS PER A. O. ENGINEERING STANDARD D-004.

THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR.

MATERIAL: A.O. SPEC. B-110
PROCESS: A.O. SPEC. 661-D

| APPROVED | | | DRAWN BY | CHECKED BY | 3RD ANGLE PROJECTION |
|---|---|---|---|---|---|
| PROJ ENG. | MATERIAL | SPECIAL | PUGNO 30 AUG. 01 | M.PONTANARI 30 AUG. 01 | |

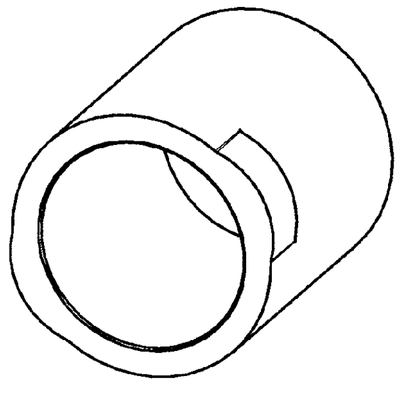
| 78365 | PART/DWG NO. 3256-M-1131 | 9117 |
|---|---|---|
| RELEASE | NAME GUIDE TO INSTALL WHEEL HUB | ENG. DESC. CODE |

MERITOR™ METRIC

IN.-10THS. 1 2 3 — 10 20 30 40 50 60 70 80 MM

| WEIGHT RGH/FIN | INQUIRY NO. | C.R./T.E. NO. APP. NO. | ORIGINAL FOR | SCALE | DESIGN CONTROL GROUP | PART NO. |
|---|---|---|---|---|---|---|
| 1.201 KGS | | RCVC-872 | U-177E | 1:1 | CAMERI | |

◑ NOTE :
PROCESS 21-CW



| | LAYOUT NO. | |
|---|---|---|

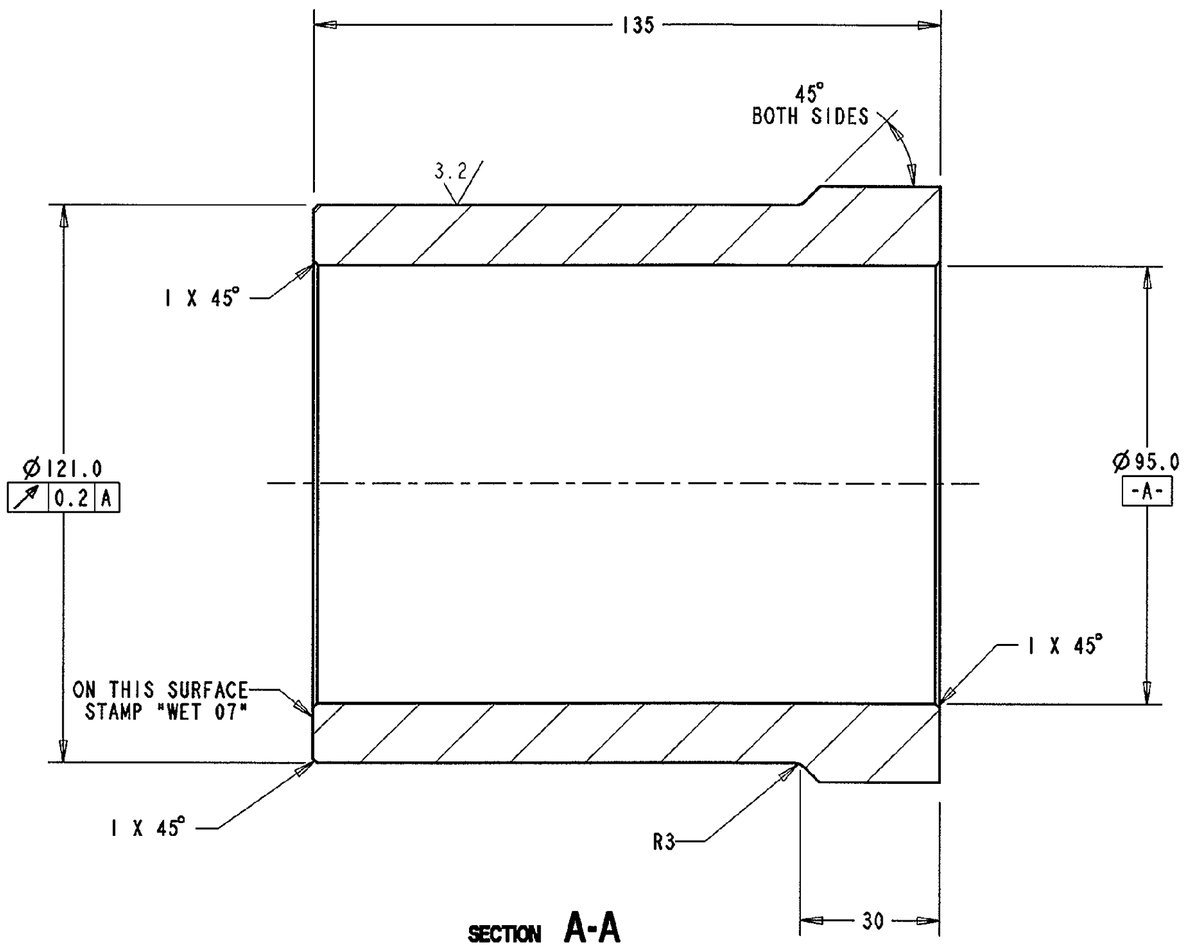
SIM. PARTS

INTERPRET DWG. PER AO ENG STDS DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRM STD Z-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS 7°±1°
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS, FINS, FLASH & PROJECTIONS

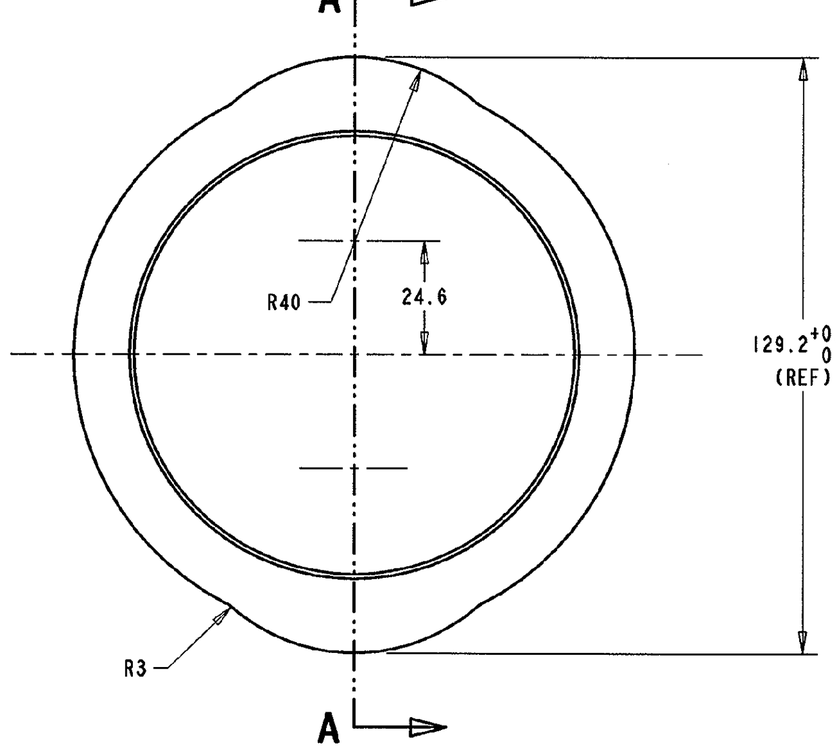
FINISH ALLOWANCE
F1 = 0.8
F2 = 1.6
F3 = 2.4
F4 = 3.2
F5 = 4.0
F6 = 4.8
F8 = 6.4
F10 = 8.0

REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-Q-1109 RELEASED FOR TOOLING | 70388 08 10 99 | M.P. M.L. |




SECTION A-A




# SERVICE TOOL
# REF. - WET 07

| | | |
|---|---|---|
| 70388 | PART/DWG NO. 3256-Q-1109 | 9117 |
| RELEASE | NAME HUB BEARING REMOVING TOOL | ENG. DESC. CODE |

APPLY SPECIFIED MERITOR MARKINGS PER A.O. ENGINEERING STANDARD D-004.

THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR.

MATERIAL: A.O. SPEC. B-110
PROCESS: A.O. SPEC. 661-D ◑

| APPROVED | | |
|---|---|---|
| PROJ. ENG. | MATERIAL | SPECIAL |
| | | |

DRAWN BY: M.LUPI 30-Jun-99
CHECKED BY: M.PONTANARI 30-Jun-99
3RD ANGLE PROJECTION

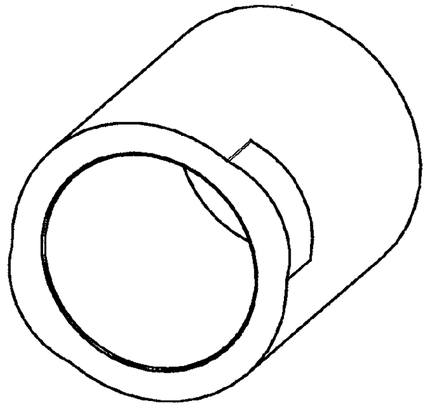
MERITOR. METRIC

IN. 10THS. 10 20 30 40 50 60 70 80 90 100MM

WEIGHT RGH/FIN: 6.588 KGS
INQUIRY NO.
C.R./T.E. NO. APP. NO.: RCVC-704
ORIGINAL FOR: H-127E
SCALE: 1:1
DESIGN CONTROL GROUP: CAMERI
PART NO.

DO NOT CHANGE MANUALLY
SOLID MODELING CENTER

◑ NOTE :
PROCESS 21-CW



| | LAYOUT NO. | |
|---|---|---|

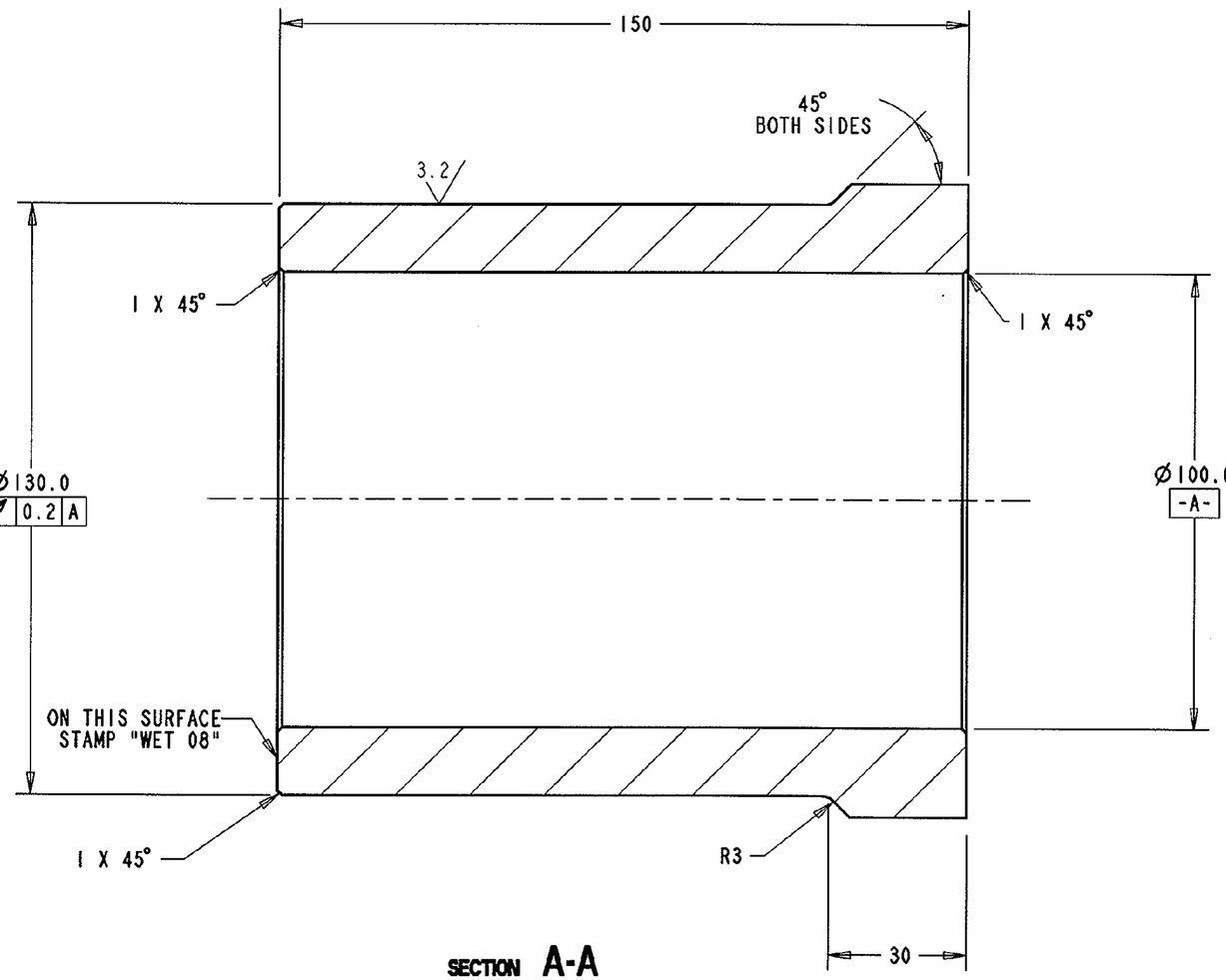
SIM. PARTS

INTERPRET DWG. PER AO ENG STDS DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRM STD Z-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS 7°±1°
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS, FINS, FLASH & PROJECTIONS

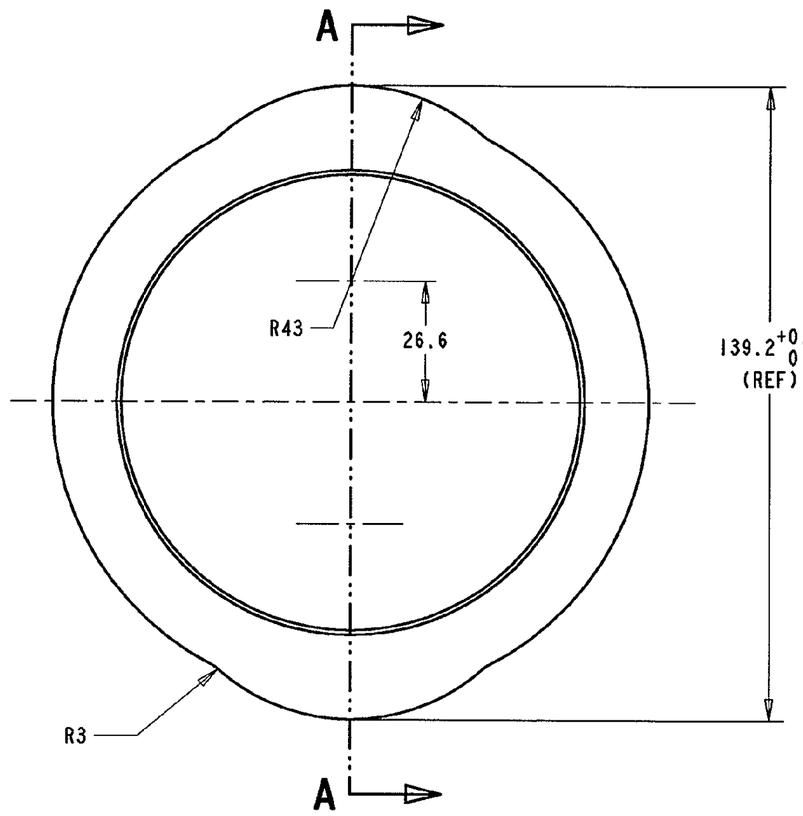
FINISH ALLOWANCE
F1 = 0.8
F2 = 1.6
F3 = 2.4
F4 = 3.2
F5 = 4.0
F6 = 4.8
F8 = 6.4
F10 = 8.0

REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-R-1110 RELEASED FOR TOOLING | 70388 08 10 99 | M.P. M.L. |




SECTION A-A




# SERVICE TOOL
# REF. - WET 08

| | | |
|---|---|---|
| 70388 | PART/DWG NO. 3256-R-1110 | 9117 |
| RELEASE | NAME HUB BEARING REMOVING TOOL | ENG. DESC. CODE |

APPLY SPECIFIED MERITOR MARKINGS PER A.O. ENGINEERING STANDARD D-004.

THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR.

MATERIAL: A.O. SPEC. B-110
PROCESS: A.O. SPEC. 661-D ◑

| APPROVED | | | DRAWN BY | CHECKED BY | 3RD ANGLE PROJECTION |
|---|---|---|---|---|---|
| PROJ. ENG. | MATERIAL | SPECIAL | M.LUPI 30-Jun-99 | M.PONTANARI 30-Jun-99 | |

MERITOR. METRIC

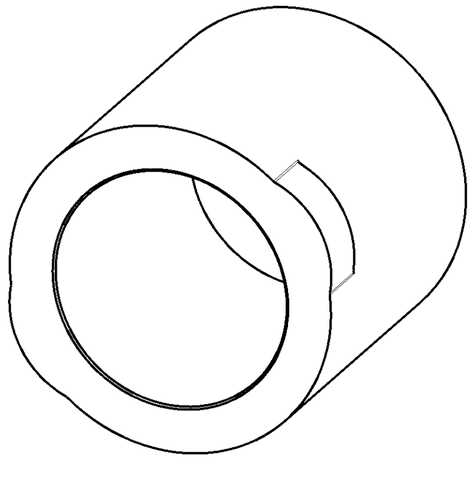
IN. 10THS. 10 20 30 40 50 60 70 80 90 100MM

| WEIGHT RGH/FIN | 6.588 KGS | INQUIRY NO. | C.R./T.E. NO. APP. NO. RCVC-738 | ORIGINAL FOR R-147E | SCALE 1:1 | DESIGN CONTROL GROUP CAMERI | PART NO. |
|---|---|---|---|---|---|---|---|

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER

◑ NOTE :
PROCESS 21-CW



| | LAYOUT NO. | |
|---|---|---|

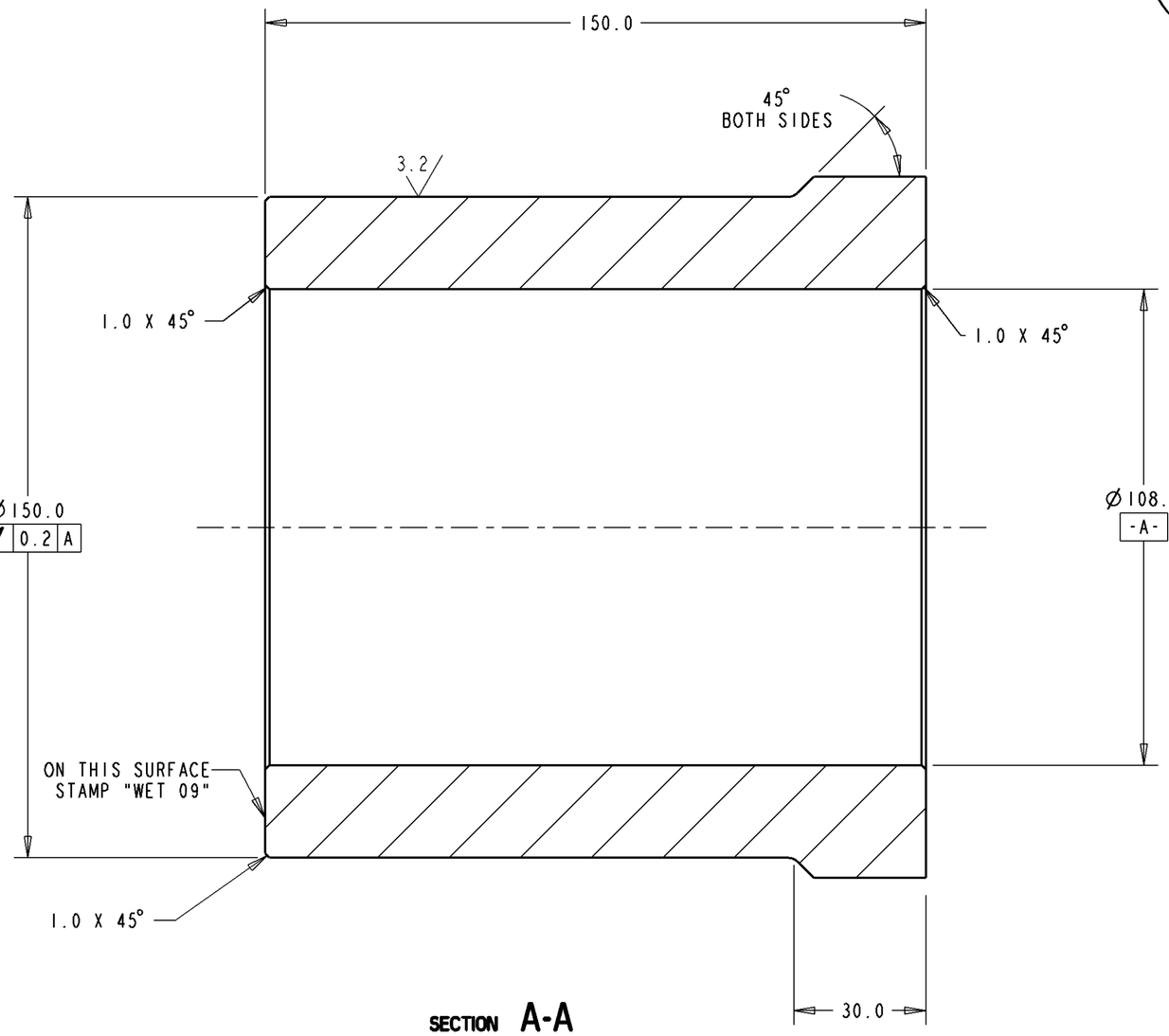
SIM.PARTS

INTERPRET DWG. PER AO ENG STDS DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRM STD 2-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS 7°±1°
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS,FINS,FLASH & PROJECTIONS

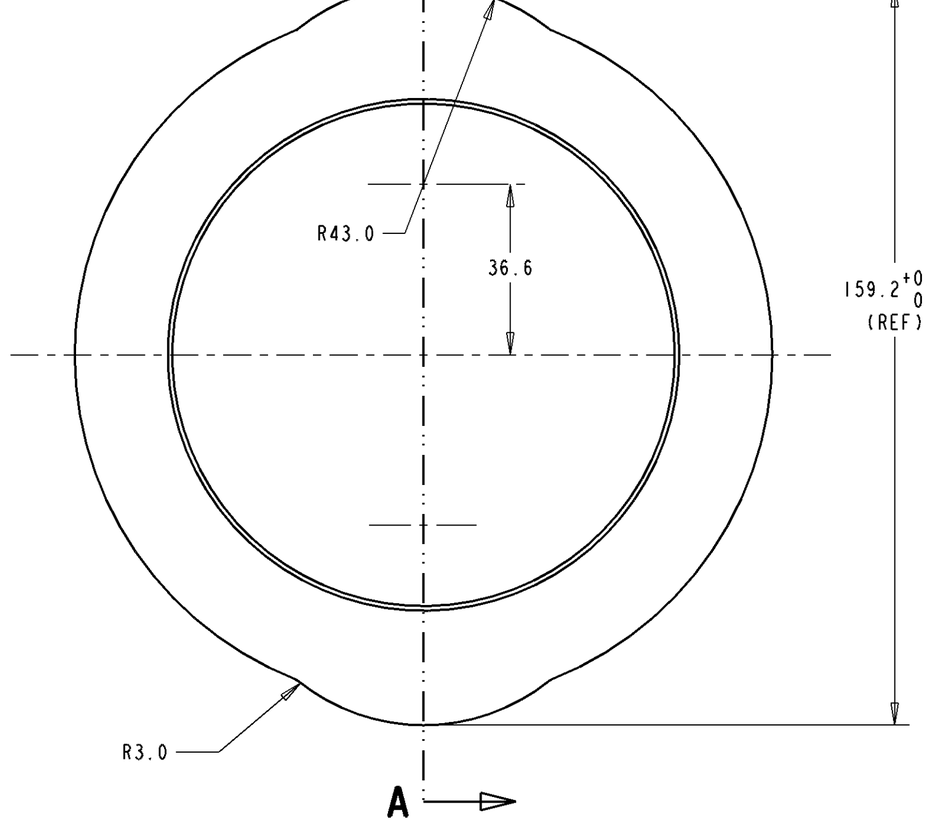
FINISH ALLOWANCE
F1 = 0.8
F2 = 1.6
F3 = 2.4
F4 = 3.2
F5 = 4.0
F6 = 4.8
F8 = 6.4
F10 = 8.0

REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-N-1132 RELEASED FOR TOOLING | 78365 30 AUG. 01 | M.P. P.P. |




SECTION A-A




# SERVICE TOOL
# REF. - WET 09

| | | |
|---|---|---|
| 78365 | PART/DWG NO. 3256-N-1132 | 9117 |
| RELEASE | NAME HUB BEARING REMOVING TOOL | ENG. DESC. CODE |

APPLY SPECIFIED MERITOR
MARKINGS PER A.O.
ENGINEERING STANDARD D-004.

THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR.

MATERIAL: A.O. SPEC. B-110
PROCESS: A.O. SPEC. 661-D ◑

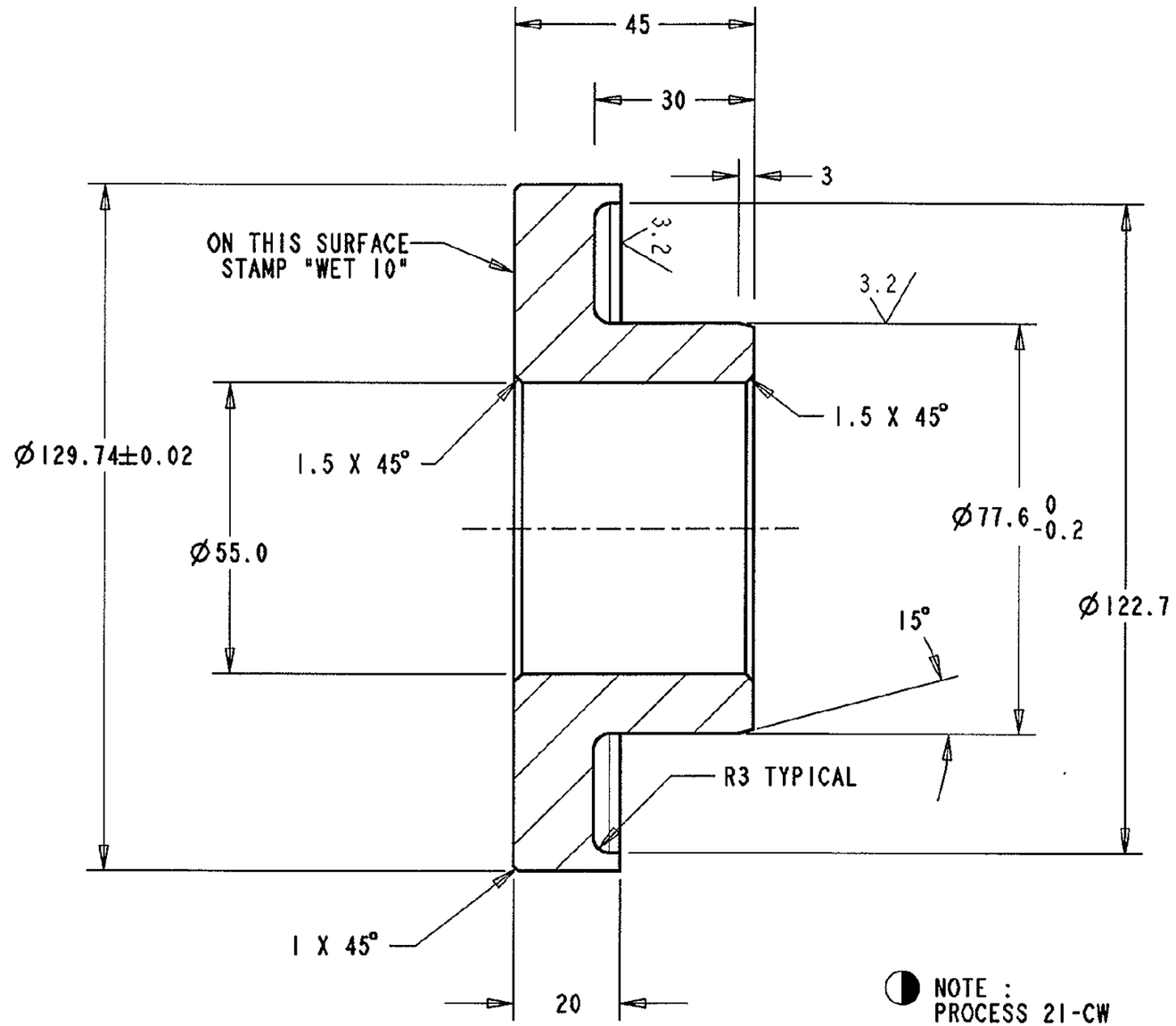
| APPROVED | | | DRAWN BY | CHECKED BY | 3RD ANGLE PROJECTION | DRAWING SIZE |
|---|---|---|---|---|---|---|
| PROJ. ENG. | MATERIAL | SPECIAL | PUGNO 30 AUG. 01 | M.PONTANARI 30 AUG. 01 | | C |

MERITOR™ METRIC

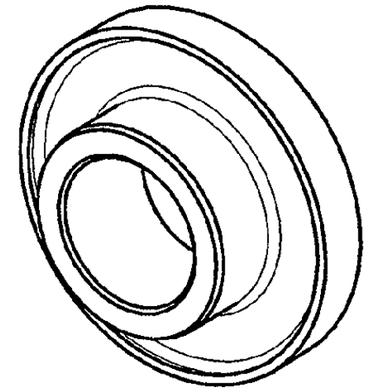
| | | | | | |
|---|---|---|---|---|---|
| IN. 10THS. 1 2 3 4 / 10 20 30 40 50 60 70 80 90 100MM | WEIGHT RGH/FIN 6.588 KGS | INQUIRY NO. | C.R./T.E. NO. APP. NO. RCVC-872 | ORIGINAL FOR U-177E | SCALE 1:1 |

DESIGN CONTROL GROUP: CAMERI
PART NO.

DO NOT CHANGE MANUALLY
SOLID MODELING CENTER




NOTE :
PROCESS 21-CW



# SERVICE TOOL
# REF. - WET 10

| | LAYOUT NO. | |
|---|---|---|

SIM. PARTS

INTERPRET DWG. PER AO ENG STDS DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRM STD Z-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS 7°±1°
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS, FINS, FLASH & PROJECTIONS

FINISH ALLOWANCE
F1 = 0.8
F2 = 1.6
F3 = 2.4
F4 = 3.2
F5 = 4.0
F6 = 4.8
F8 = 6.4
F10 = 8.0

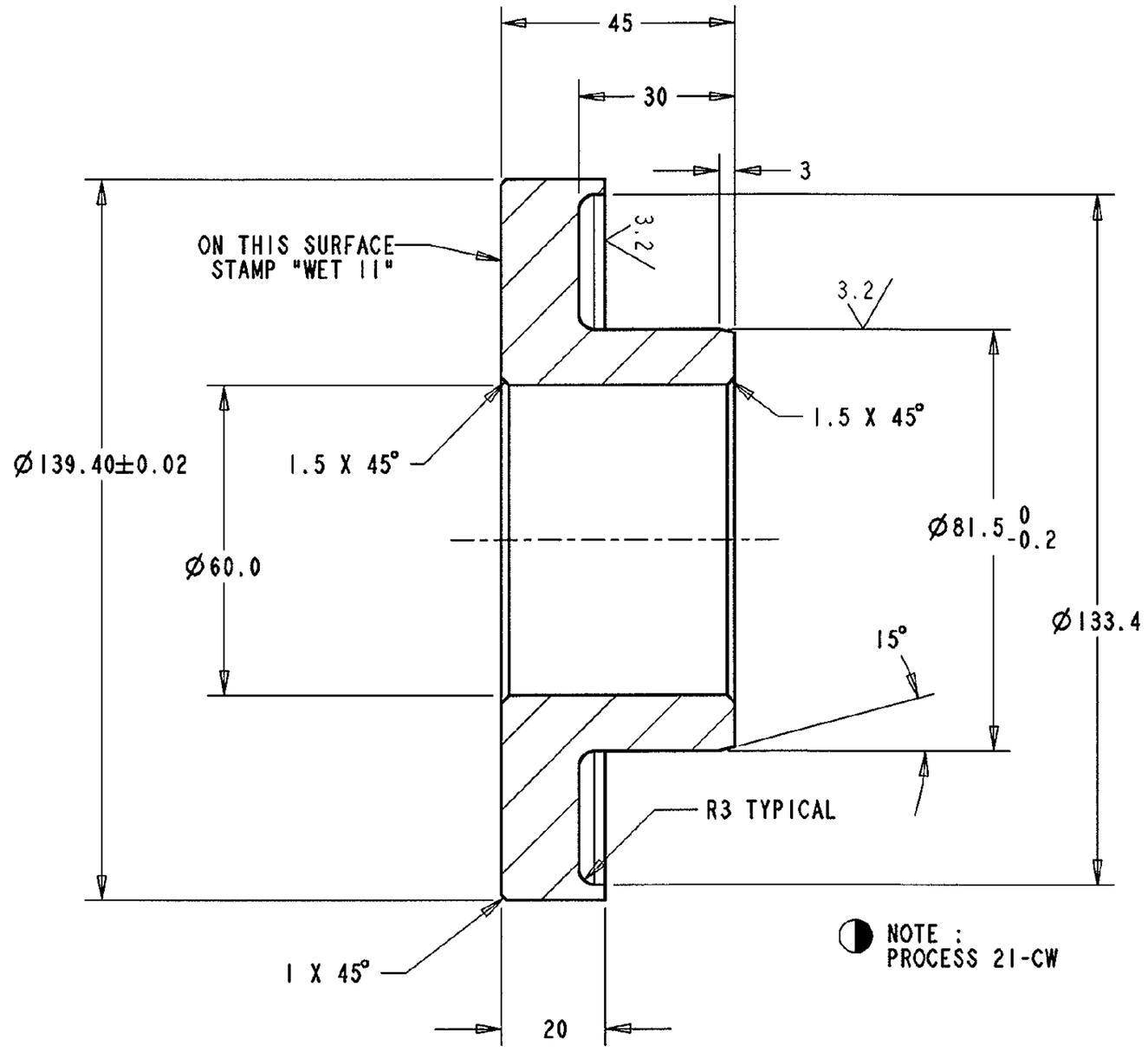
REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-S-1111 RELEASED FOR TOOLING | 70388<br>08 10 99 | M.P.<br>M.L. |

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 70388 | PART/DWG NO. 3256-S-1111 | | | | | | | | 9117 |
| RELEASE | NAME HUB BEARING FITTING TOOL | | | | | | | | ENG. DESC. CODE |
| | MERITOR. | | | | | | | | METRIC |
| APPLY SPECIFIED MERITOR MARKINGS PER A. O. ENGINEERING STANDARD D-004. | THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR. | MATERIAL A.O. SPEC. B-110 | | | | | | | |
| | | PROCESS A.O. SPEC. 661-D ◑ | | | | | | | |
| | | | APPROVED: PROJ ENG. | MATERIAL | SPECIAL | DRAWN BY M.LUPI 30-Jun-99 | CHECKED BY M.PONTAMARI 30-Jun-99 | 3RD ANGLE PROJECTION | |
| IN.-10THS. 1 2 3 10 20 30 40 50 60 70 80 MM | WEIGHT RGH/FIN 1.936 KGS | INQUIRY NO. | C.R./T.E. NO. APP. NO. RCVC-704 | | | ORIGINAL FOR H-127E | SCALE 1:1 | DESIGN CONTROL GROUP CAMERI | PART NO. |




| | LAYOUT NO. | |
|---|---|---|

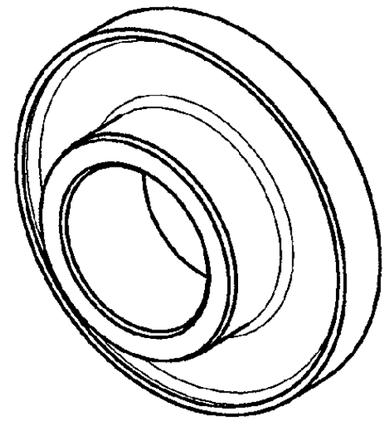
SIM. PARTS

INTERPRET DWG. PER AO ENG STDS DRN.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRW STD Z-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS 7°±1°
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS, FINS, FLASH & PROJECTIONS

FINISH ALLOWANCE
F1 = 0.8
F2 = 1.6
F3 = 2.4
F4 = 3.2
F5 = 4.0
F6 = 4.8
F8 = 6.4
F10 = 8.0

REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-T-1112 RELEASED FOR TOOLING | 70388 08 10 99 | M.P. M.L. |



# SERVICE TOOL
# REF. - WET 11

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER

APPLY SPECIFIED MERITOR MARKINGS PER A. O. ENGINEERING STANDARD D-004.

THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR.

MATERIAL: A.O. SPEC. B-110
PROCESS: A.O. SPEC. 661-D

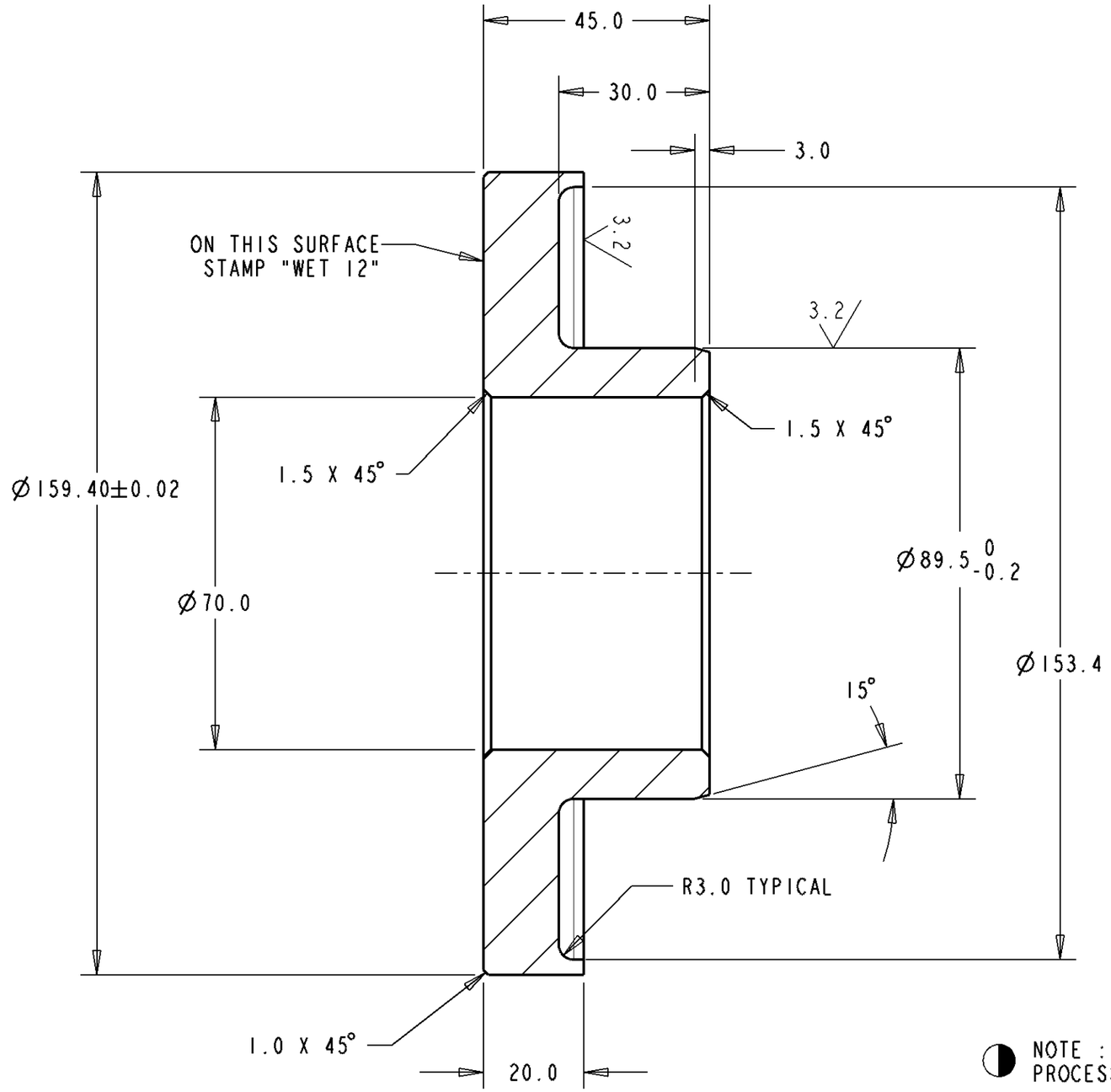
| APPROVED | | | DRAWN BY | CHECKED BY | 3RD ANGLE PROJECTION |
|---|---|---|---|---|---|
| PROJ ENG. | MATERIAL | SPECIAL | M.LUPI 30-Jun-99 | M.PONTAMARI 30-Jun-99 | |

| 70388 | PART/DWG NO. 3256-T-1112 | 9117 |
|---|---|---|
| RELEASE | NAME HUB BEARING FITTING TOOL | ENG. DESC. CODE |

MERITOR. METRIC

IN.-10THS. MM

| WEIGHT RGH/FIN | 1.936 KGS | INQUIRY NO. | C.R./T.E. NO. APP. NO. RCVC-738 | ORIGINAL FOR R-147E | SCALE 1:1 | DESIGN CONTROL GROUP CAMERI | PART NO. |
|---|---|---|---|---|---|---|---|




NOTE :
PROCESS 21-CW

| | LAYOUT NO. | |
|---|---|---|

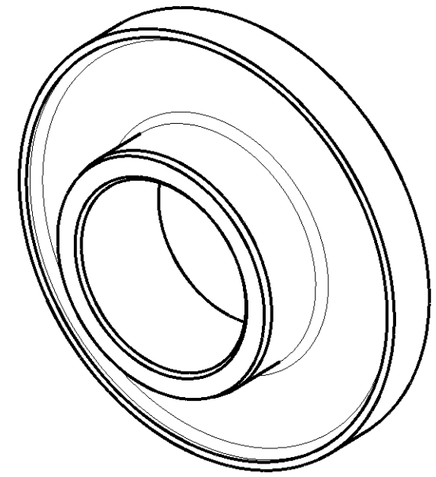
SIM.PARTS

INTERPRET DWG. PER AO ENG STDS DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRM STD 2-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS 7°±1°
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS,FINS,FLASH & PROJECTIONS

FINISH ALLOWANCE
F1 : 0.8
F2 : 1.6
F3 : 2.4
F4 : 3.2
F5 : 4.0
F6 : 4.8
F8 : 6.4
F10 : 8.0

REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-P-1134 RELEASED FOR TOOLING | 78365 30 AUG. 01 | M.P. P.P. |



# SERVICE TOOL
# REF. - WET 12

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| APPLY SPECIFIED MERITOR MARKINGS PER A. O. ENGINEERING STANDARD D-004. | THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR. | MATERIAL A.O. SPEC. B-110 | | | | 78365 | PART/DWG NO. 3256-P-1134 | 9117 |
| | | PROCESS A.O. SPEC. 661-D ◑ | APPROVED PROJ ENG. / MATERIAL / SPECIAL | DRAWN BY PUGNO 30 AUG. 01 | CHECKED BY M.PONTANARI 30 AUG. 01 | RELEASE | NAME HUB BEARING FITTING TOOL | ENG. DESC. CODE |
| | | | | | 3RD ANGLE PROJECTION | | MERITOR. | METRIC |
| IN.-10THS. 1 2 3 10 20 30 40 50 60 70 80 MM | WEIGHT RGH/FIN 1.936 KGS | INQUIRY NO. | C.R./T.E. NO. APP. NO. RCVC-872 | ORIGINAL FOR U-177E | SCALE 1:1 | DESIGN CONTROL GROUP CAMERI | PART NO. | |

ALL SMALL RADII NOT SPECIFIED TO BE 2.0

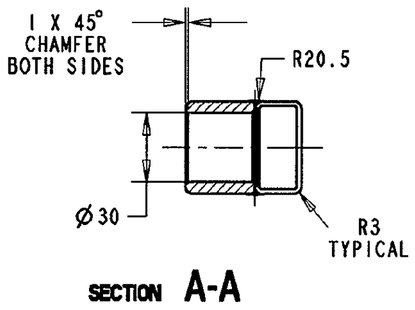
| | LAYOUT NO. | |
|---|---|---|
| SIM. PARTS | | |

INTERPRET DWG. PER AO ENG STDS DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRM STD Z-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS $7^{+}_{-}1^{\circ}$
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS, FINS, FLASH & PROJECTIONS

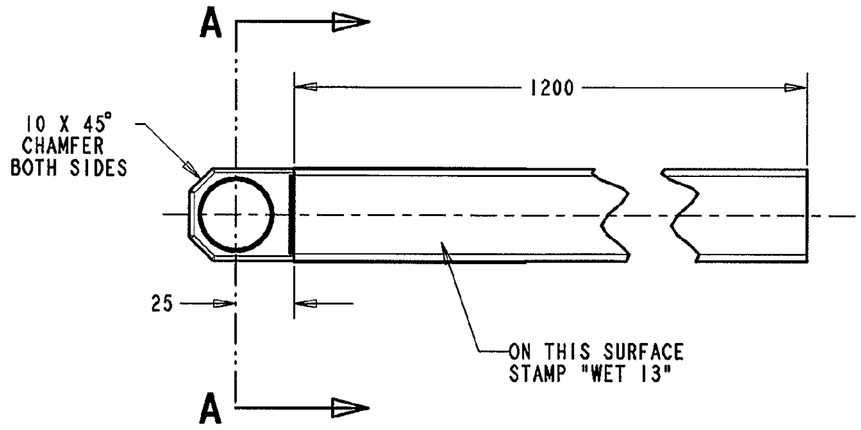
FINISH ALLOWANCE
F1 = 0.8
F2 = 1.6
F3 = 2.4
F4 = 3.2
F5 = 4.0
F6 = 4.8
F8 = 6.4
F10 = 8.0

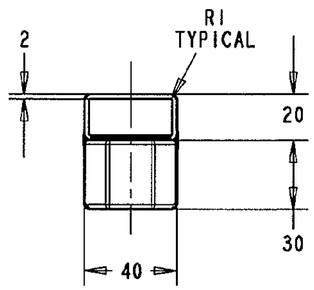
REVISIONS

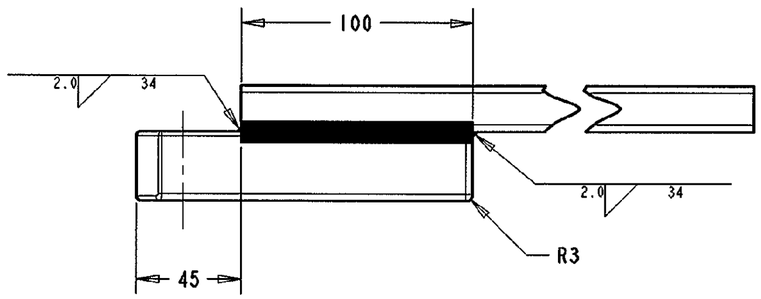
| | | | |
|---|---|---|---|
| A | 3256-U-1113 RELEASED FOR TOOLING | 70388<br>08 10 99 | M.P.<br>M.L. |




SECTION **A-A**



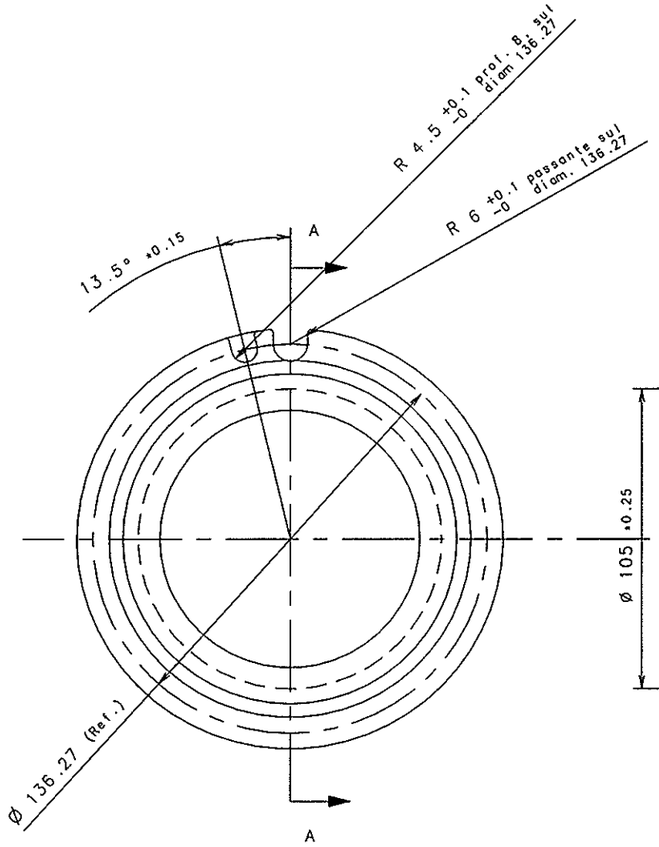



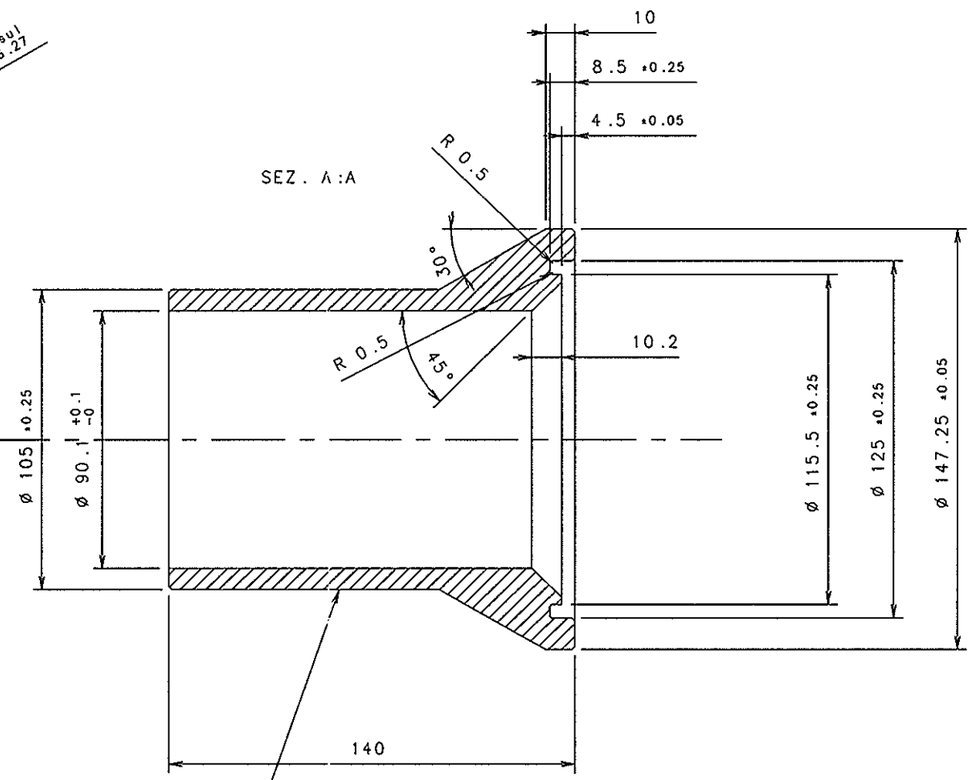

# SERVICE TOOL
# REF. - WET 13

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 70388 | PART/DWG NO. 3256-U-1113 | | 9117 |
| APPLY SPECIFIED MERITOR MARKINGS PER A.O. ENGINEERING STANDARD D-004. | THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR. | MATERIAL B-100-1 | | | | RELEASE | NAME REACTION LEVER | | ENG. DESC. CODE |
| | | PROCESS A.O. SPEC. 510 REF 30-EO WITH 525 | APPROVED: PROJ. ENG. / MATERIAL / SPECIAL | DRAWN BY M. LUPI 28-Sep-99 | CHECKED BY M. PONTANARI 28-SEP-99 | | MERITOR | | METRIC |
| IN. 10THS. 1 2 3 4 / 10 20 30 40 50 60 70 80 90 100MM | WEIGHT RGH/FIN 3.192 KGS | INQUIRY NO. | C.R./T.E. NO. APP. NO. RCVC-704 | ORIGINAL FOR ALL MODELS | SCALE 1:2 | DESIGN CONTROL GROUP CAMERI | PART NO. | | |




SPIGOLI NON QUOTATI:
SMUSSARE 1 x 45°

3

# SERVICE TOOL REF. - WET 14

MATERIALE : 38NiCrMo4 Bon.

| | GRAFICO NO<br>LAYOUT NO. | |
|---|---|---|
| SIMILITUDINE CON:<br>SIM.PARTS: | | |
| SOVRAMET.PER LAVORAZIONE F1 = 0.8 F3 = 2.4 F5 = 4.0 F8 = 6.4<br>FINISH ALLOWANCE F2 = 1.6 F4 = 3.2 F6 = 4.8 F10 = 8.0 | | |

| | |
|---|---|
| INTERPRETARE IL DIS.SECONDO MANUALE PROGETT.<br>SALVO DIVERSAMENTE SPECIFICATO:<br>TOLLERANZE DI FUSIONE VED.NORM. Z-001-2<br>TOLLER.DI FORG. +1.6 -0.8; SPOGLIE 7o±1o<br>ALTRE TOLLER. ±0.4 PER 2 CIFRE DECIMALI<br>±0.8 PER 1 CIFRA DECIMALE<br>±1o PER DIMENSIONI ANGOLARI.<br>R 0.80 SU TUTTI GLI ANGOLI INTERNI LAVORATI.<br>SMUSSARE BORDI E SPIGOLI,ELIMINARE BAVE,<br>CRESTE E SPORGENZE NON INDICATE A DISEGNO. | INTERPRET DRAWING PER ENG.STDS.DRM.<br>UNLESS OTHERWISE SPECIFIED:<br>CAST.TOLERANCES PER DRM.STD. Z-001-2<br>FORG. TOLS. +1.6 -0.8; DRFTS 7o±1o<br>OTHERWISE TOLS. ±0.4 ON 2 PLACE DECIMALS<br>±0.8 ON 1 PLACE DECIMAL<br>±1o ON ANGULAR DIMENSIONS.<br>ALL MACHINED INSIDE CORNERS 0.80 RADIUS.<br>BREAK ALL SHARP EDGES.<br>REMOVE BURRS,FINS,FLASH & PROJECTIONS |

MODIFICHE / REVISIONS

| | | | |
|---|---|---|---|
| A | 3256-Q-1135 RELEASED FOR TOOLING. | 79309<br>05 NOV. 2001 | S.C.<br>M.V. |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 79309 | PART .No/DWG .NO.<br>3256-Q-1135 | | 9117 |
| APPLY SPECIFIED MERITOR MARKINGS PER A. O. ENGINEERING STANDARD D-004. | THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED,USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR | MATERIALE/MATERIAL<br>—— | | | | DELIBERA/RELEASE | DENOMINAZIONE/NAME<br>ABS SENSOR ALIGNMENT TOOL | | CODICE MECCANOGR. ENG.DESC. CODE |
| | | TRATTAMENTO/PROCESS | VISTI/APPROVED<br>UFF.TEC.ING. PROJ ENG. / MATERIALI MATERIAL / SPECIALI SPECIAL | DISEGNATORE DRAWN BY, M. VIGANO 5 NOV. 2001 | CONTROLL.DA CHECKED BY S. CATTANEO 5 NOV. 2001 | | MERITOR. | | METRIC |
| IN.-10THS. 1 2 3 10 20 30 40 50 60 70 80 MM | PESO/WEIGHT GREZZO/RGH. FINITO/FIN. | DERIVATO No/INQUIRY NO. | RICHIESTA COSTI No/C.R./T.E. NO.<br>APPROV.STANZ.N /APP.NO. RCVC-872 | TIPO BASE/ORIGINAL FOR U-167E | SCALA/SCALE —— | DIS. CONTR. DAL GR. DESIGN CONTROL GROUP CVC CAMERI | PART NO. | | |

ALL SMALL RADII NOT SPECIFIED TO BE 2.0

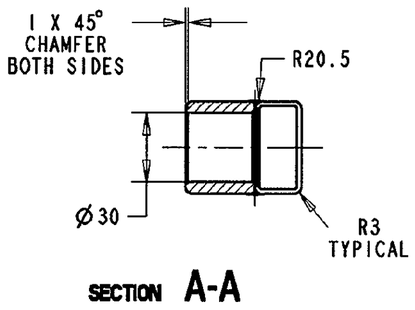
| | LAYOUT NO. | |
|---|---|---|
| SIM. PARTS | | |

INTERPRET DWG. PER AO ENG STDS DRM.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS.
CASTING TOLERANCES PER AO DRM STD Z-001-2.
FORGING TOLERANCES +1.6 -0.8; DRAFTS $7^{+}_{-}1^{\circ}$
OTHERWISE TOLS ±0.40 ON 2-PLACE DECIMALS
±0.80 ON 1-PLACE DECIMALS
±1° ON ANGULAR DIMENSIONS
ALL MACHINED INSIDE CORNERS 0.80 RADIUS.
BREAK ALL SHARP EDGES.
REMOVE ALL BURRS, FINS, FLASH & PROJECTIONS

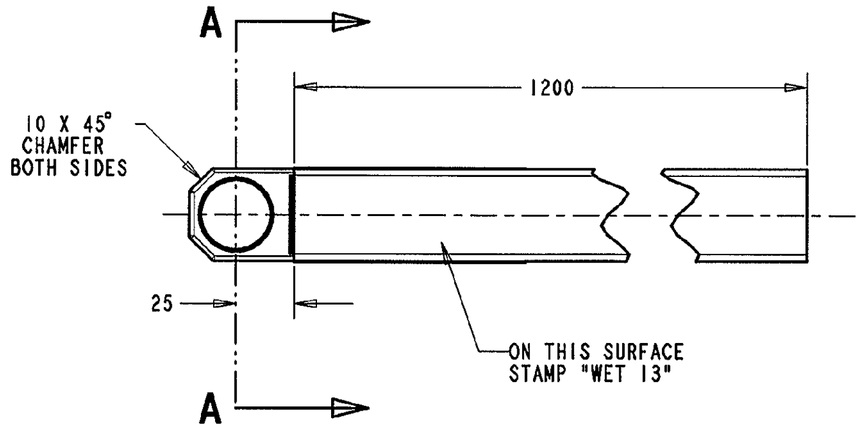
FINISH ALLOWANCE
F1 = 0.8
F2 = 1.6
F3 = 2.4
F4 = 3.2
F5 = 4.0
F6 = 4.8
F8 = 6.4
F10 = 8.0

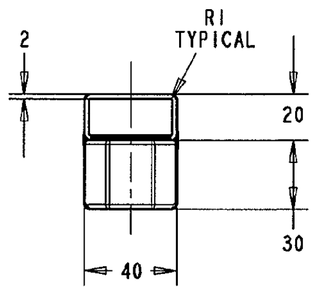
REVISIONS

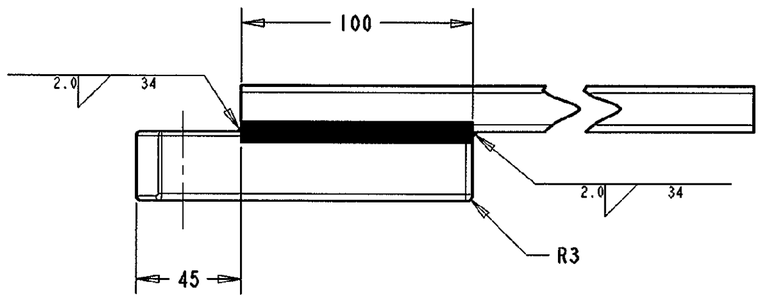
| | | | |
|---|---|---|---|
| A | 3256-U-1113 RELEASED FOR TOOLING | 70388<br>08 10 99 | M.P.<br>M.L. |




SECTION **A-A**




# SERVICE TOOL
# REF. - WET 13

DO NOT CHANGE MANUALLY

SOLID MODELING CENTER

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 70388 | PART/DWG NO. 3256-U-1113 | | 9117 |
| APPLY SPECIFIED MERITOR MARKINGS PER A.O. ENGINEERING STANDARD D-004. | THIS PRINT IS LOANED ON A CONFIDENTIAL BASIS SUBJECT TO RETURN UPON DEMAND BY MERITOR AND NOTHING HEREON MAY BE REPRODUCED, USED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN PERMISSION OF MERITOR. | MATERIAL B-100-1 | | | | RELEASE | NAME REACTION LEVER | | ENG. DESC. CODE |
| | | PROCESS A.O. SPEC. 510 REF 30-EO WITH 525 | APPROVED: PROJ. ENG. / MATERIAL / SPECIAL | DRAWN BY M. LUPI 28-Sep-99 | CHECKED BY M. PONTANARI 28-SEP-99 | | MERITOR | | METRIC |
| IN. 10THS. 1 2 3 4 / 10 20 30 40 50 60 70 80 90 100MM | WEIGHT RGH/FIN 3.192 KGS | INQUIRY NO. | C.R./T.E. NO. APP. NO. RCVC-704 | ORIGINAL FOR ALL MODELS | SCALE 1:2 | DESIGN CONTROL GROUP CAMERI | PART NO. | | |