

# Parts Manual

Mfg. No: 076860-00  
60,000 Watt LC Standby Generator (B&S  
Fortress)

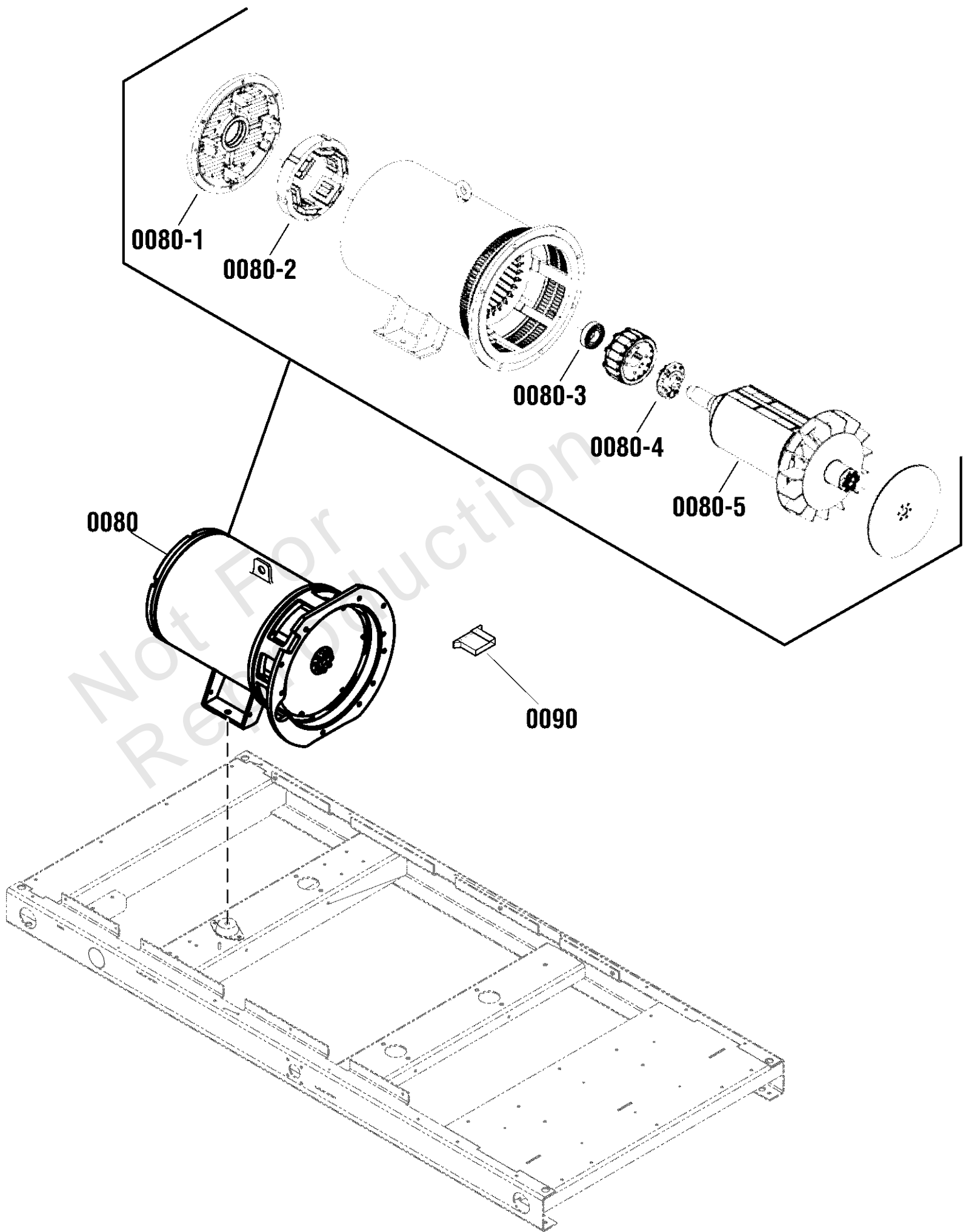


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# Alternator Group

Note: Unless noted otherwise, use the standard torque specifications

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## Alternator Group

REF NO	PART NO	QTY	DESCRIPTION
0080	314824GS	1	ALTERNATOR
0080-1	706012	1	COVER
0080-2	706007	1	EXCITER-STATOR
0080-3	315056GS	1	BEARING
0080-4	706004	1	RECTIFIER ASSEMBLY
0080-5	706020	1	ROTOR ASSEMBLY
0090	770128	1	CONNECTOR-AVR

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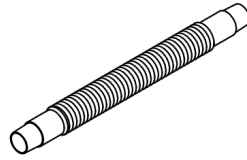
# Circuit Breaker and Accessories Group

Note: Unless noted otherwise, use the standard torque specifications

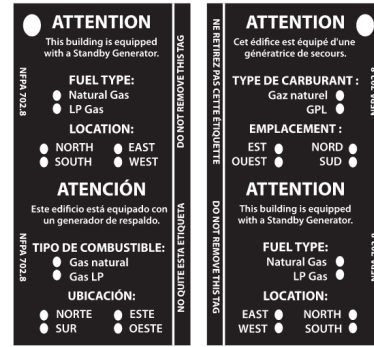
Mfg. No: 076860-00



0020



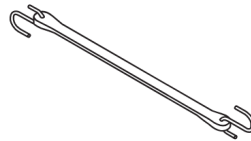
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0040



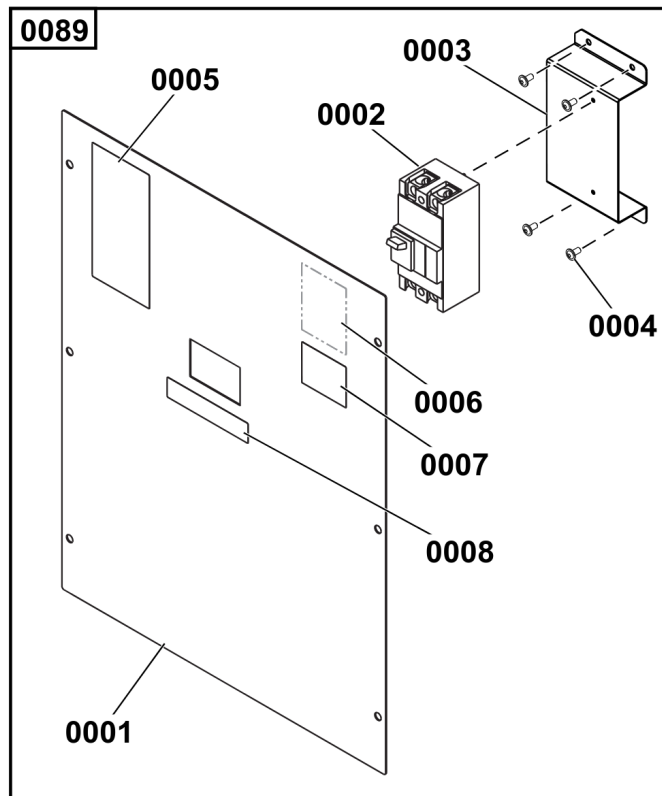
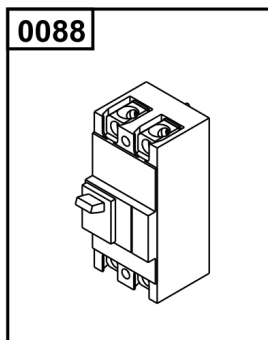
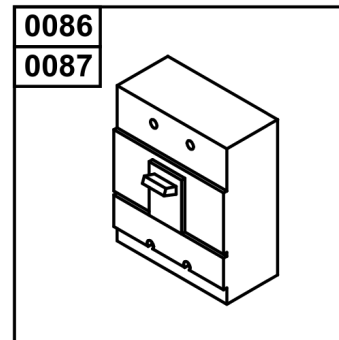
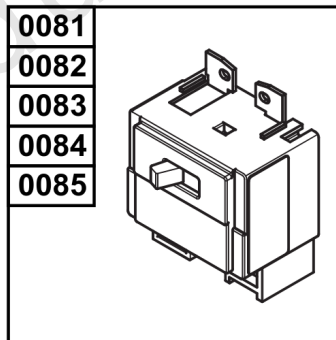
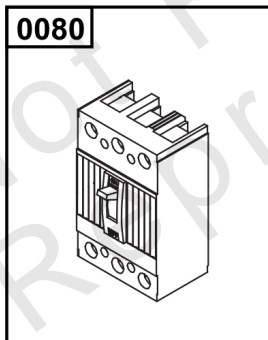
0050



0060



0070



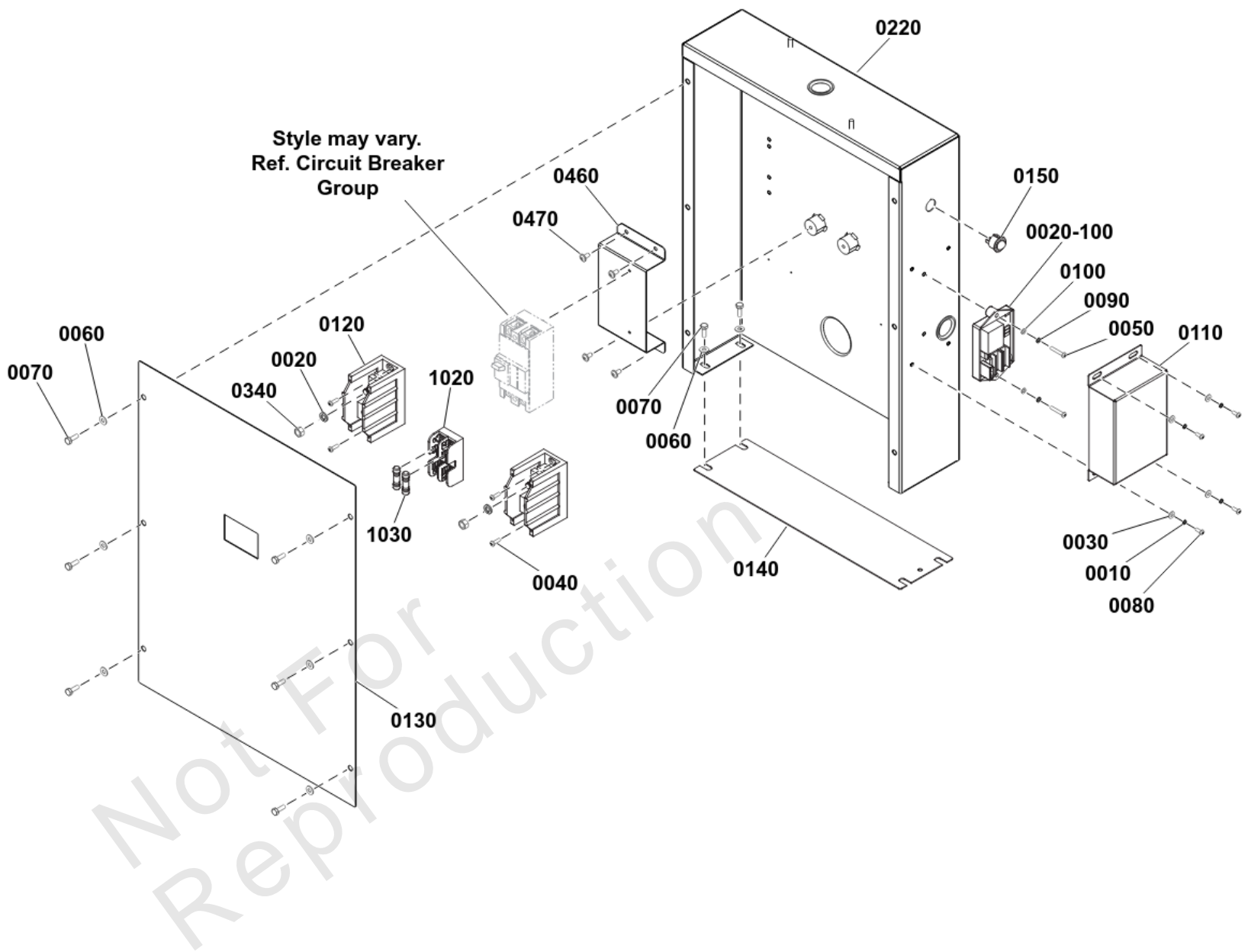
## Circuit Breaker and Accessories Group

REF NO	PART NO	QTY	DESCRIPTION
0020	207652GS	1	SET, Latch Key, Plain
0030	205206GS	1	FUEL HOSE, Flexible
0040	706988	1	HANG TAG-ATTN. STANDBY EQUIPMENT
0050	319693GS	1	PAINT, Touch Up, Cont. Charcoal, Texture
0060	316869GS	1	STRAP-BATTERY TIEDOWN
0070	198573GS	2	FUSE, Auto Type, 15 Amp
0080	319607GS	1	BREAKER-CIRCUIT, 175A, 2 Pole -(Use on 076130-00, 076130-02, 076158-00, 076158-02)
0081	209069GS	1	BREAKER-CIRCUIT, 200A, 2 Pole -(Use on 076150-02, 076150-03, 076150-04, 076850-00, 076850-01)
0082	209168GS	1	CIRCUIT BREAKER, 150A, 2 Pole -(Use on 076138-00, 076138-01, 076148-00, 076148-01, 076840-01)
0083	204144GS	1	BREAKER, Circuit, 150A -(Use on 076130-03, 076130-04, 076830-03, 076830-04)
0084	319607GS	1	BREAKER-CIRCUIT, 175A, 2 Pole -(Use on 076140-03, 076830-00, 076830-02, 076840-00)
0085	313351GS	1	CIRCUIT BREAKER, 225A, 2 Pole -(Use on 076150-00, 076150-01, 076168-00, 076168-02)
0086	315550GS	1	BREAKER-CIRCUIT, 300A, 2 Pole -(Use on 076860-00)
0087	772305	1	BREAKER, Circuit, 250A, 2 Pole -(Use on 076160-05, 076860-01)
0088	84011526	1	BREAKER, Circuit, 250A, 2 Pole -(Use on 076160-05, 076860-01)
0089	84011532	1	KIT, Circuit Breaker -(Order when Ref. # 0087 is NLA) (Includes Ref. Nos. 0001, 0002, 0003, 0004, 0005, 0006, 0007, 0008)
0001	-----	1	COVER
0002	84011526	1	BREAKER, Circuit, 250A, 2 Pole
0003	-----	1	BRACKET
0004	5025299X4SM	4	SCREW, ALLEN HEAD 1/4-20 X .500 ZINC PHOS
0005	-----	1	DECAL-WARNING, OPERATOR MANUAL
0006	-----	1	DECAL-WARNING, FUSE
0007	-----	1	DECAL, Warning
0008	-----	1	DECAL-DISCONNECT
--	319677GS		PAINT, Spray, Cont. Charcoal, Texture -(Optional Accessory - Not Included)
--	6428		KIT, Communication Cable -(Optional Accessory - Not Included)
--	6429		KIT-COMMUNICATION CABLE -(Optional Accessory - Not Included)
--	6514		KIT, Maintenance -(Optional Accessory - Not Included)

# Control Box Group

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00





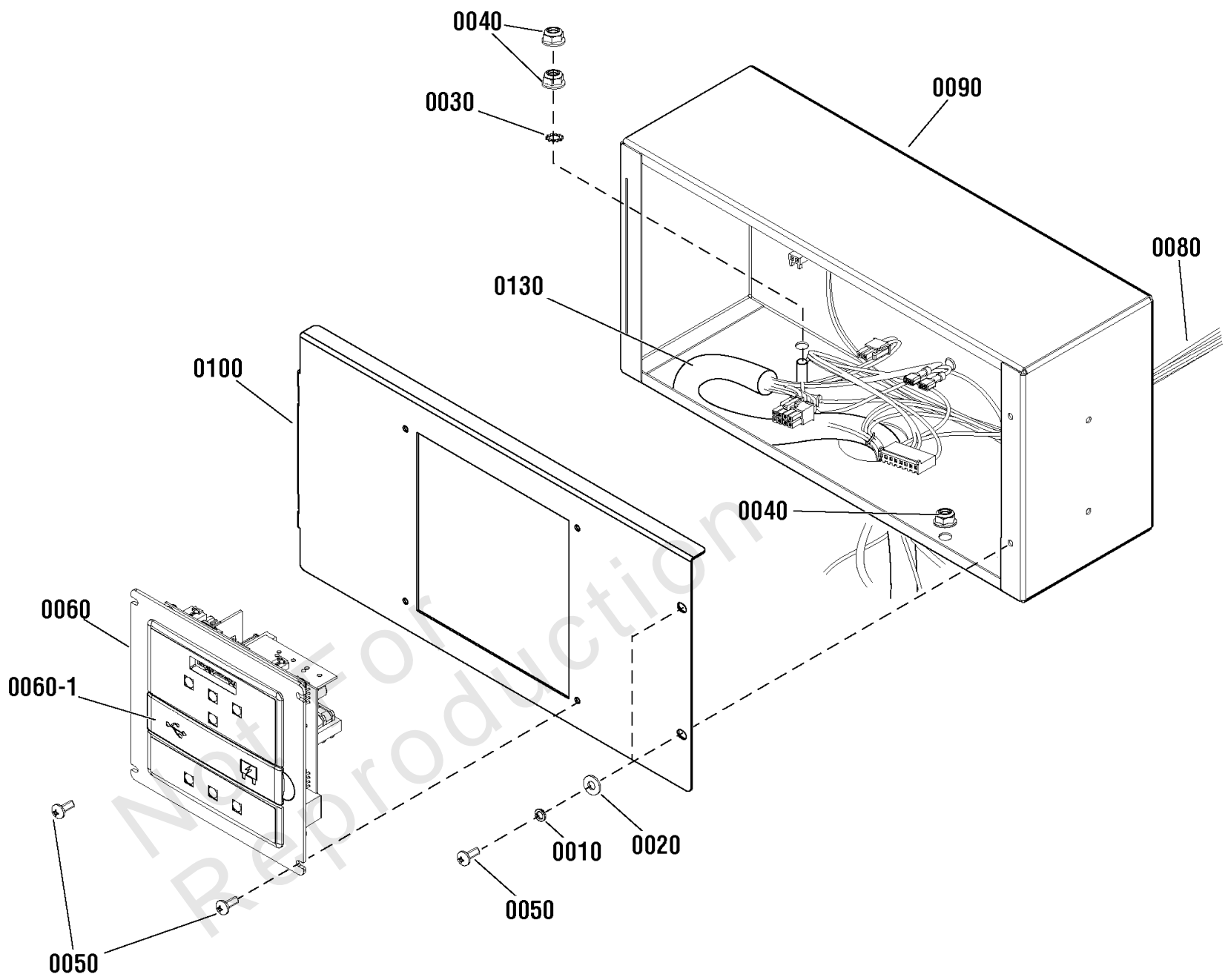
## Control Box Group

REF NO	PART NO	QTY	DESCRIPTION
0010	22152GS	4	WASHER, Lock, #10
0020	22237GS	2	WASHER, Locking, 3/8
0030	23897GS	4	WASHER, Flat, #10 - M5
0040	76040GS	4	SCREW
0050	79224GS	2	SCREW
0060	-----	10	*WASHER, 1/4, SS
0070	-----	10	*HHCS, 1/4-20 X 3/4 SS
0080	205947GS	4	SCREW, Trilobular, #10-32 x 3/4
0090	207805GS	2	WASHER
0100	207806GS	2	WASHER
0110	BA209747GS	1	COVER
0120	312612GS	2	TERMINAL -(3/8"-16 x 1" stud)
0130	BA315492GS	1	COVER
0140	BA315493GS	1	COVER
0150	315551GS	1	SWITCH, Rocker
0220	704172	1	BOX-CONTROL PANEL
0340	5025034SM	2	NUT, 3/8-16 HEX
0460	-----	1	BRACKET
0470	5025299X4SM	4	SCREW, ALLEN HEAD 1/4-20 X .500 ZINC PHOS
1020	192151GS		FUSE HOLDER, 30 Amp 2P -(Use as required)
1030	205110GS		FUSE, 10 Amp 600v -(Use as required)
0020-100	209856GS		REGULATOR, Voltage
--	770128		CONNECTOR-AVR -(Not Illustrated)

# Control Panel Group

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00



## Control Panel Group

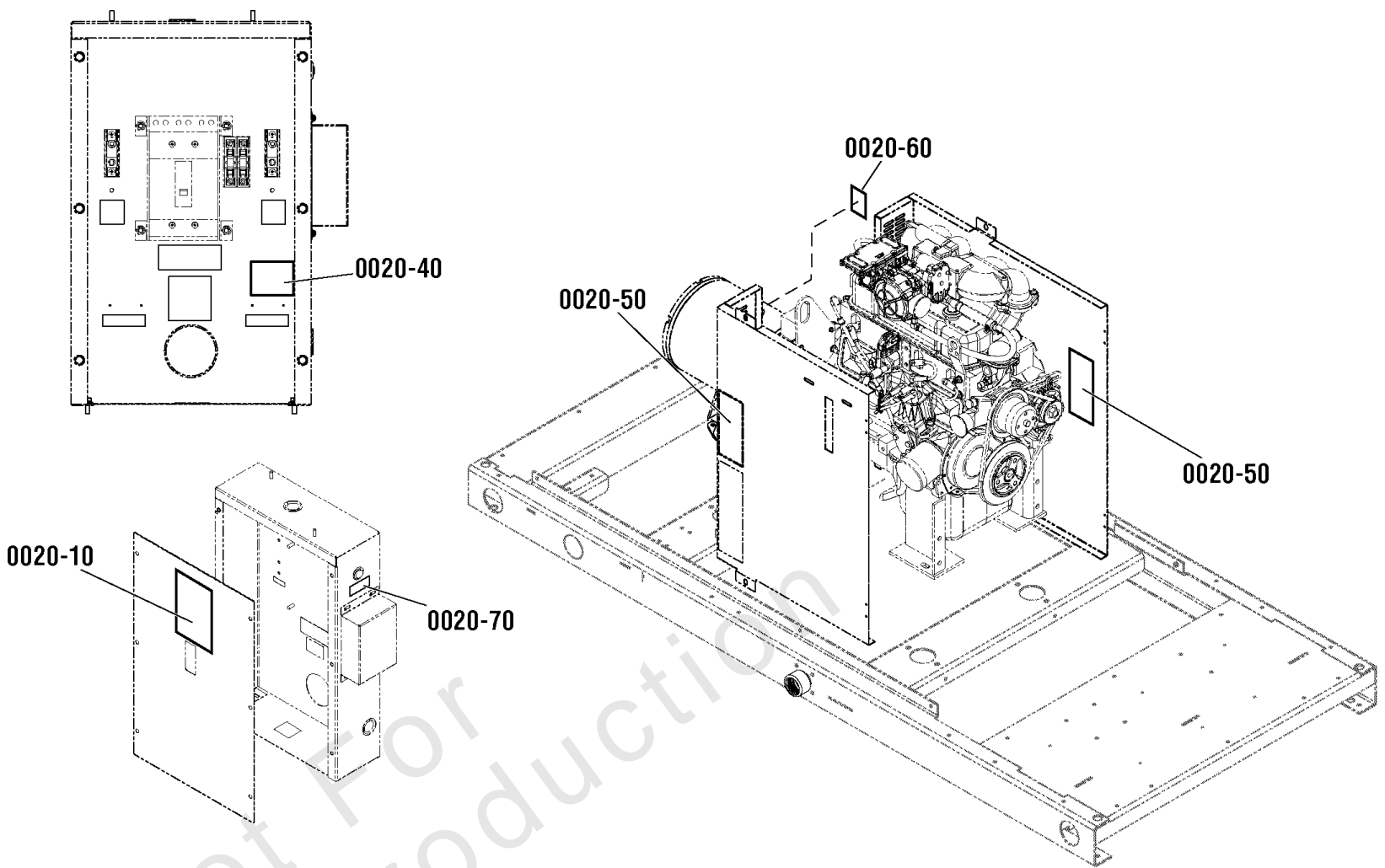
REF NO	PART NO	QTY	DESCRIPTION
0010	-----		* WASHER, Split Lock #10
0020	-----		* WASHER, Flat, #10 - M5
0030	-----		* WASHER, Shakeproof, M6-1/4
0040	-----		* NUT, Flange, Nylock, 1/4-20
0050	-----		* SCREW, Trilobular, #10-32 x 3/4
0060	319891GS		CONTROL PANEL -(Includes Ref. No. 0060-1)
0060-1	319009GS		DOOR
0080	708777		HARNESS-WIRE
0090	770303		BOX-CONTROL
0100	770304		COVER-CONTROL BOX -(B&S Controller)
0130	319289GS		HARNESS-WIRE

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**Footnotes:**

\* Items without part numbers are common fasteners. Purchase locally.

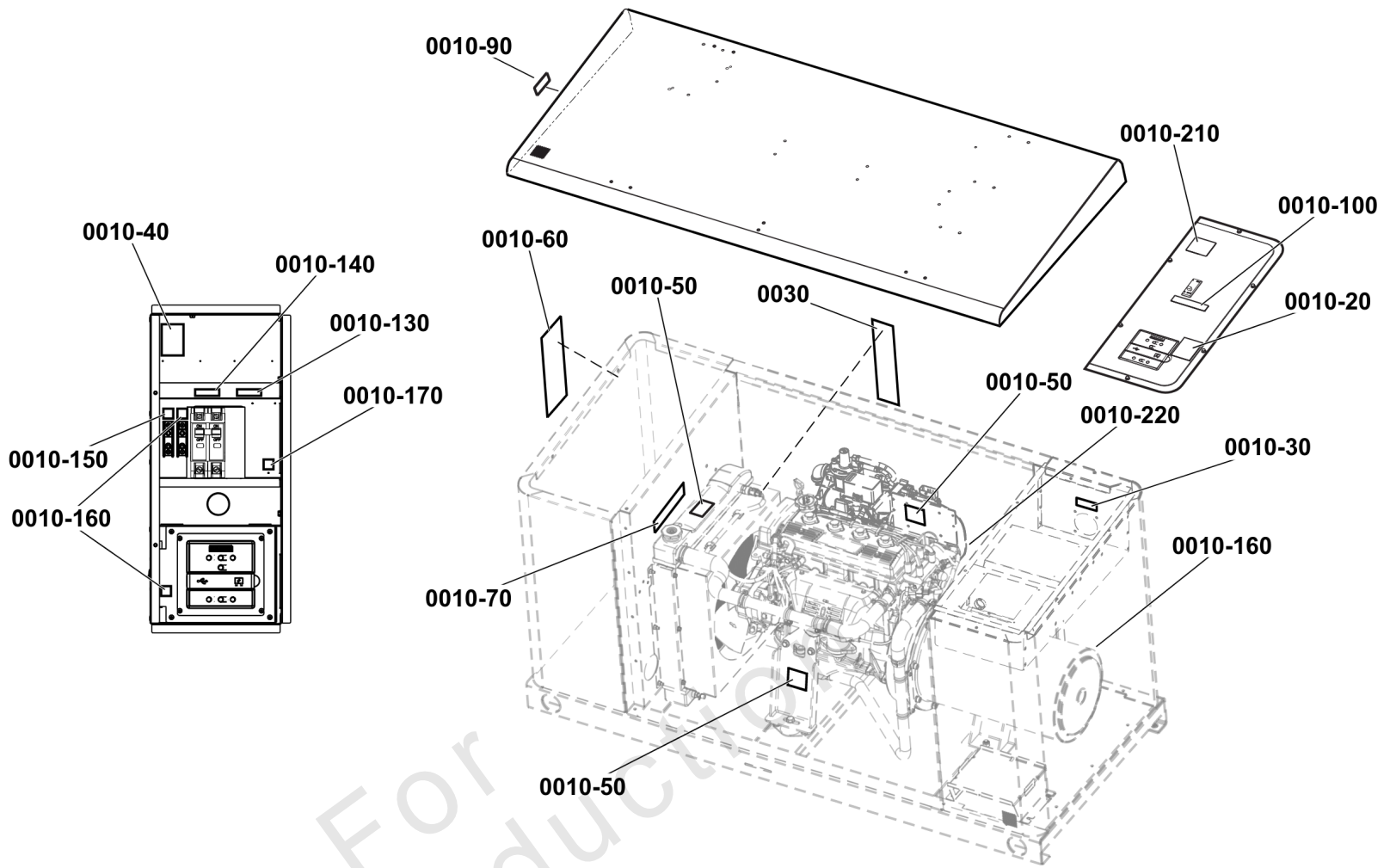


<p><b>0020</b></p> <p><b>WARNING AVERTISSEMENT ADVERTENCIA</b></p> <p>Failure to read &amp; follow Operator and Installation manuals could result in death or serious injury.</p> <p>Ne pas lire et respecter les manuels de l'utilisateur et d'installation pourrait entraîner des blessures graves ou la mort.</p> <p>No leer y seguir las indicaciones de los manuales de operación e instalación podría causar la muerte o lesiones serias.</p> <p>Generator starts automatically which could result in serious injury. Remove control panel fuse and disconnect battery prior to servicing.</p> <p>La génératrice démarre automatiquement, ce qui pourrait entraîner des blessures graves. Retirez le fusible du panneau de contrôle et débranchez la batterie avant d'effectuer un entretien.</p> <p>El generador arranca automáticamente, lo que podría causar lesiones serias. Retire el fusible del panel de control y desconecte la batería antes de realizar algún servicio.</p> <p>Risk of electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.</p> <p>Risque de décharge électrique. Ne pas retirer le couvercle. Aucune pièce à entretenir par l'utilisateur à l'intérieur. Confier l'entretien à du personnel de service qualifié.</p> <p>Riesgo de descarga eléctrica, no quite la cubierta. No hay partes que puedan ser reparadas por el usuario en el interior. Haga que personal calificado realice el servicio.</p> <p><b>0020-10</b></p>	<p><b>WARNING AVERTISSEMENT ADVERTENCIA</b></p> <p>Risk of electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.</p> <p>Risque de décharge électrique. Ne pas retirer le couvercle. Aucune pièce à entretenir par l'utilisateur à l'intérieur. Confier l'entretien à du personnel de service qualifié.</p> <p>Riesgo de descarga eléctrica, no quite la cubierta. No hay partes que puedan ser reparadas por el usuario en el interior. Haga que personal calificado realice el servicio.</p> <p><b>0020-20</b></p> <p><b>WARNING AVERTISSEMENT ADVERTENCIA</b></p> <p>Electric shock hazard could result in death or serious injury. Do not install or remove current transformer when generator is operating. Place generator in off position and remove controller fuse before servicing.</p> <p>Risque de choc électrique pouvant provoquer des blessures graves, voire la mort. Ne pas installer ou retirer le transformateur de courant lorsque la génératrice est en fonction. Placez la génératrice à la position d'arrêt et retirez le fusible de contrôle avant tout entretien.</p> <p>Riesgo de descarga eléctrica que puede resultar en muerte o lesión seria. No instale ni retire el transformador cuando el generador está en funcionamiento. Apague el generador y retire el fusible del controlador antes de reparar.</p> <p><b>0020-30</b></p>	<p><b>NG LP</b></p> <p><b>0020-70</b></p> <p><b>WARNING AVERTISSEMENT ADVERTENCIA</b></p> <p>Explosion of battery gases could result in death or serious injury. Keep all sources of ignition away from battery. Battery contains acid which could result in blindness or severe burns. Avoid contact with acid.</p> <p>L'explosion des gaz de la batterie peut provoquer des blessures graves, voire la mort. Tenez toutes les sources d'allumage éloignées de la batterie. La batterie contient de l'acide pouvant causer la cécité ou de sévères brûlures. Évitez le contact avec l'acide.</p> <p>La explosión de la batería podría causar la muerte o lesiones serias. Mantenga todas las fuentes de ignición lejos de la batería. La batería contiene ácido que podría causar ceguera o quemaduras serias. Evite el contacto con el ácido.</p> <p><b>0020-40</b></p>	<p><b>WARNING AVERTISSEMENT ADVERTENCIA</b></p> <p>Generator starts automatically which could result in serious injury. Remove control panel fuse and disconnect battery prior to servicing.</p> <p>La génératrice démarre automatiquement, ce qui pourrait entraîner des blessures graves. Retirez le fusible du panneau de contrôle et débranchez la batterie avant d'effectuer un entretien.</p> <p>El generador arranca automáticamente, lo que podría causar lesiones serias. Retire el fusible del panel de control y desconecte la batería antes de realizar algún servicio.</p> <p>Hot surface could result in serious injury. Do not touch.</p> <p>La surface chaude pourrait entraîner des blessures graves. Ne touchez pas.</p> <p>La superficie caliente podría causar lesiones serias. No tocar.</p> <p>Hot pressurized coolant could result in severe injury. Do not open when hot. Allow coolant to cool before servicing.</p> <p>Le liquide de refroidissement pourrait provoquer de sévères blessures. Ne pas ouvrir lorsque le liquide de refroidissement est chaud. Laissez refroidir le liquide de refroidissement avant d'effectuer l'entretien.</p> <p>El refrigerante caliente a presión podría causar lesiones severas. No abra cuando esté caliente. Permita que el refrigerante se enfríe antes de dar servicio.</p> <p>Moving parts can crush and cut which could result in death or serious injury.</p> <p>Do not operate with guard removed. Remove panel fuse and negative battery cable before servicing.</p> <p>Les pièces mobiles peuvent écraser et couper ce qui pourrait causer la mort ou des blessures graves.</p> <p>Ne pas utiliser l'appareil lorsque le protecteur est retiré. Enlevez le fusible du tableau ainsi que le câble négatif de la batterie avant d'effectuer l'entretien.</p> <p>Las partes móviles pueden aplastar y cortar, lo que puede resultar en muerte o lesión seria.</p> <p>No opere si se ha removido la guarda. Retire el fusible del panel y el cable negativo de la batería antes de dar servicio.</p> <p><b>0020-50</b></p>
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## Decals Group - Base

REF NO	PART NO	QTY	DESCRIPTION
0020	708797	1	DECAL SHEET-WARNINGS -(Includes all decals shown on page)
0020-10	-----	1	DECAL-WARNING, OPERATOR MANUAL
0020-20	-----	1	DECAL-WARNING, SHOCK
0020-30	-----	1	DECAL-WARNING, ELECTRIC SHOCK
0020-40	-----	1	DECAL-WARNING, ELECTRIC SHOCK
0020-50	-----	4	DECAL-WARNING
0020-60	-----	1	DECAL-WARNING, RISK OF EXPLOSION
0020-70	-----	1	DECAL-FUEL SOURCE

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**NOTICE AVIS AVISO**

**FUEL REQUIREMENTS**  
Estimated generator fuel supply requirements for both natural gas and LP vapor:

Model	Natural Gas		LP Vapor	
	BTU/H	m <sup>3</sup> /h	BTU/H	m <sup>3</sup> /h
35kW	344,452	9.8	399,116	4.5
48kW	470,963	13.3	505,670	5.7
60kW	681,500	19.3	800,300	9.1

Fuel inlet pressure requirements at full load are:  
Inches of WC mm of WC  
7-11 178-279

Model	Natural Gas		LP Vapor	
	BTU/H	m <sup>3</sup> /h	BTU/H	m <sup>3</sup> /h
25kW	368,100	10.42	387,000	4.38
30kW	414,500	11.74	436,800	4.95

Fuel inlet pressure requirements at full load are:  
Inches of WC mm of WC  
5-11 127-279

**EXIGENCES EN MATIERE DE CARBURANT**  
Approximativement approximatif en carburant pour le gaz naturel et le propane gazeux:

Modèle	Gaz naturel		Propane gazeux	
	BTU/H	m <sup>3</sup> /h	BTU/H	m <sup>3</sup> /h
35kW	344,452	9.8	399,116	4.5
48kW	470,963	13.3	505,670	5.7
60kW	681,500	19.3	800,300	9.1

Les exigences de pression d'admission du carburant à plein rendement sont:  
Pouces CE mm de CE  
7-11 178-279

Modèle	Gaz naturel		Propane gazeux	
	BTU/H	m <sup>3</sup> /h	BTU/H	m <sup>3</sup> /h
25kW	368,100	10.42	387,000	4.38
30kW	414,500	11.74	436,800	4.95

Les exigences de pression d'admission du carburant à plein rendement sont:  
Pouces CE mm de CE  
5-11 127-279

**REQUERIMIENTOS DE COMBUSTIBLE**  
Requerimientos estimados de combustible para el generador para gas natural y gas LP:

Modelo	Gas Natural		Gas LP	
	BTU/H	m <sup>3</sup> /h	BTU/H	m <sup>3</sup> /h
35kW	344,452	9.8	399,116	4.5
48kW	470,963	13.3	505,670	5.7
60kW	681,500	19.3	800,300	9.1

Los requerimientos de presión de entrada de combustible a carga completa son de:  
pulgadas de columna de agua mm de columna de agua  
7-11 178-279

Modelo	Gas Natural		Gas LP	
	BTU/H	m <sup>3</sup> /h	BTU/H	m <sup>3</sup> /h
25kW	368,100	10.42	387,000	4.38
30kW	414,500	11.74	436,800	4.95

Los requerimientos de presión de entrada de combustible a carga completa son de:  
pulgadas de columna de agua mm de columna de agua  
5-11 127-279

**0010**

**WARNING AVERTISSEMENT ADVERTENCIA**

To reduce the risk of fire, replace only with same type and rating of fuse.

**2.5 AMP TYPE AGC**

Pour réduire le risque d'incendie, remplacez avec un fusible de même type et classification.

**2.5 A TYPE AGC**

Para reducir el riesgo de incendio, reemplazé solamente con un fusible del mismo tipo y capacidad.

**2.5 AMP TIPO AGC**

**NOTICE AVIS AVISO**

ALL TERMINAL AND BUS LUGS ARE SUITABLE FOR COPPER WIRE 60/75°C RATING

TOUTES LES BORNES ET COSSES DE COLLECTEURS CONVIENTENT AUX FILS DE CUIVRE DE CALIBRE 60/75°C

TODOS LOS CONECTORES DE TERMINAL Y DE BUS SON APROPIADOS PARA CABLE DE COBRE CON CAPACIDAD DE 60/75°C

**0010-40**

**WARNING AVERTISSEMENT ADVERTENCIA**

Engine exhaust contains carbon monoxide, a poisonous gas that could kill you in minutes. You cannot smell it or see it. Install outdoors only. Install carbon monoxide alarms in home.

Hot surface could result in serious injury. Do not touch.

Engine exhaust could ignite combustibles resulting in death or serious injury. Exhaust side of weatherproof enclosure shall have 5 ft. (1.5m) min clearance from any structures, shrubs, trees or any vegetation.

This equipment may create sparks that could start fires around dry vegetation. A spark arrester may be required. Contact local fire agencies for regulations relating to fire prevention requirements.

L'échappement du moteur contient du monoxyde de carbone, un gaz toxique pouvant tuer en quelques minutes. Vous ne pouvez ni le sentir ni le voir. Installez à l'extérieur seulement. Installez les alarmes de monoxyde de carbone dans la maison. La surface chaude pourrait entraîner des blessures graves. Ne touchez pas.

L'échappement du moteur peut enflammer les combustibles, ce qui peut provoquer des blessures graves, voire la mort. La sortie pour l'échappement de l'enceinte à l'épreuve des intempéries doit avoir un dégagement d'au moins 1,5 m (5 pi) de toutes structures, buissons, arbres ou autres végétaux. Cet équipement peut produire des étincelles pouvant déclencher des incendies autour de la végétation sèche. Un pare-étincelles pourrait être nécessaire. Contactez les responsables locaux des incendies pour connaître les exigences réglementaires liées à la prévention des incendies.

Los gases de escape del motor contienen monóxido de carbono, un gas venenoso que podría matarlo en minutos. No puede verlo ni olerlo. Instále solamente en exteriores. Instale alarmas de monóxido de carbono en el hogar. La superficie caliente podría causar lesiones serias. No tocar.

Los gases de escape del motor podrían incendiar materiales combustibles, lo que podría causar la muerte o lesiones serias. El lado de escape del gabinete impermeable debe tener un espacio libre de 5 pies (1.5 m) de distancia desde cualquier estructura, arbusto, árbol o cualquier vegetación. Este equipo puede causar chispas que podrían iniciar incendios en vegetación seca. Podría requerirse un supresor de chispas. Póngase en contacto con las agencias locales de combate a incendios para consultar las regulaciones referentes a requisitos de prevención de incendios.

**0010-10**

**RAINPROOF ENCLOSURE** **ÉTANCHE À LA PLUIE ENCEINTE** **GABINETE A PRUEBA DE LLUVIA**

**GENERATOR SERVICE DISCONNECT** **GÉNÉRATRICE ENTRETIEN DÉBRANCHER** **DESCONECTOR DE SERVICIO DEL GENERADOR**

**0010-10**

**WARNING AVERTISSEMENT ADVERTENCIA**

To reduce the risk of fire, replace only with same type and rating of fuse.

**15 AMP TYPE ATO**

Pour réduire le risque d'incendie, remplacez avec un fusible de même type et classification.

**15 A TYPE ATO**

Para reducir el riesgo de incendio, reemplazé solamente con un fusible del mismo tipo y capacidad.

**15 AMP TIPO ATO**

**WARNING AVERTISSEMENT ADVERTENCIA**

Hot surface could result in serious injury. Do not touch.

La surface chaude pourrait entraîner des blessures graves. Ne touchez pas.

La superficie caliente podría causar lesiones serias. No tocar.

**0010-50**

Replace with UL listed fuse of same type and rating 600 volt, 10 amp

Remplacez avec un fusible homologue UL de même type et classification de 600 volts, 10 amp.

Reemplazé con un fusible certificado por UL del mismo tipo y clasificación: 600 voltios, 10 amperios

**0010-110**

**NOTICE AVIS AVISO**

CONDUIT ENTRY AREA

ZONE D'ENTRÉE DU CONDUIT

ÁREA DE ENTRADA DE CONDUIT

**0010-30**

**0010-90**

**0010-100**

**0010-130** **0010-180**

**0010-190** **0010-200**

**0010-140**

**0010-150**

**0010-160**

**0010-170**

**0010-210**

**0010-220**

**0010-230**

**WARNING AVERTISSEMENT ADVERTENCIA**

Cancer and Reproductive Harm

www.P65Warnings.ca.gov

Cancer et Troubles de l'Appareil Reproducteur

www.P65Warnings.ca.gov

Cáncer y Problemas Reproductivos

www.P65Warnings.ca.gov

**0010-210**

**WARNING AVERTISSEMENT ADVERTENCIA**

Hot pressurized coolant could result in severe injury. Do not open when hot. Allow coolant to cool before servicing.

Le liquide de refroidissement pourrait provoquer de sévères blessures. Ne pas ouvrir lorsque le liquide de refroidissement est chaud. Laissez refroidir le liquide de refroidissement avant d'effectuer l'entretien.

El refrigerante caliente a presión podría causar lesiones severas. No abra cuando esté caliente. Permita que el refrigerante se enfríe antes de dar servicio.

**0010-70**

**CAUTION MISE EN GARDE PRECAUCION**

Connect output of generator to suitably rated transfer switch in accordance with the Canadian Electrical Code, Part 1.

Branchez la sortie de la génératrice à un commutateur converteur de classification convenable, selon le Code canadien de l'électricité, partie 1.

Conecte la salida del generador a un interruptor de transferencia de la capacidad adecuada de acuerdo con el Código Eléctrico Canadiense, Parte 1.

**0010-60**

**U V W**

**0010-120**

MFG. ID: **PB** MFG. ID: **IC**

**0010-220** **0010-230**

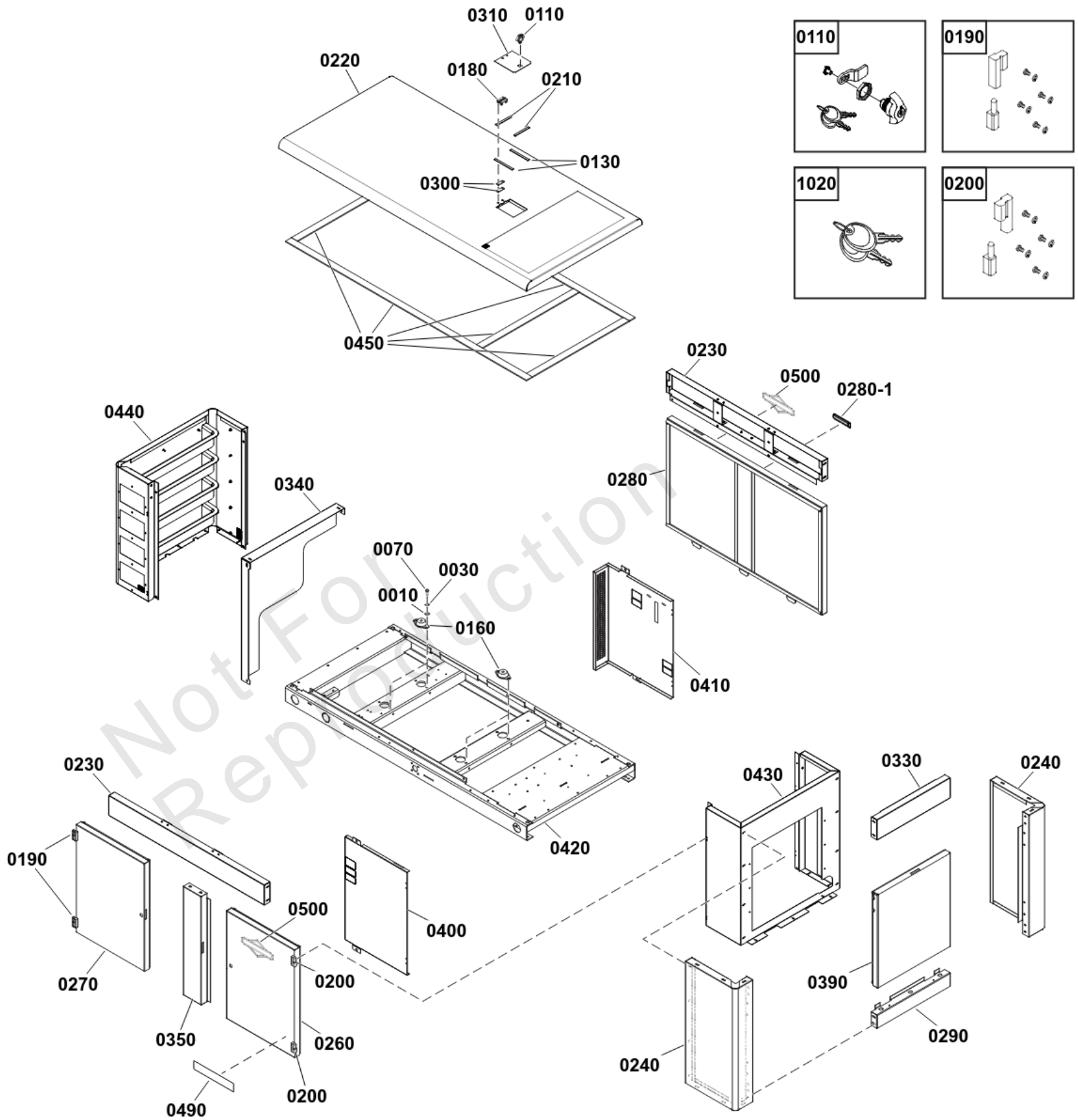
## Decals Group - Circuit Protection

REF NO	PART NO	QTY	DESCRIPTION
0010	84011107	1	DECAL SHEET, Warnings -(Includes all decals shown on sheet.)
0010-10	-----	1	DECAL-WARNING, RISK OF FIRE
0010-20	-----	1	DECAL-WARNING, FUSE
0010-30	-----	1	DECAL-NOTICE, CONDUIT ENTRY
0010-40	-----	1	DECAL-NOTICE, TERMINAL & BUS LUGS
0010-50	-----	3	DECAL-WARNING, HOT SURFACE
0010-60	-----	1	DECAL-WARNING, EXHAUST
0010-70	-----	1	DECAL-WARNING, HOT COOLANT
0010-90	-----	1	DECAL-RAINPROOF ENCLOSURE
0010-100	-----	1	DECAL-DISCONNECT
0010-110	-----	1	DECAL-FUSE REPLACEMENT
0010-120	-----	1	DECAL-CIRCUIT BREAKER
0010-130	-----	1	DECAL, Terminal Strip, Numbers 8-1
0010-140	-----	1	DECAL-L1 / L2
0010-150	-----	1	DECAL-NEUTRAL
0010-160	-----	3	DECAL-GROUND
0010-170	-----	1	DECAL-TERMINAL, 25/26
0010-180	-----	1	DECAL-TERMINAL STRIP
0010-190	-----	1	DECAL-TERMINAL STRIP
0010-200	-----	1	DECAL-TERMINAL STRIP
0010-210	-----	1	DECAL, Warning -(The installation of this decal is required for units manufactured after 08/30/2018 and sold in the state of California.)
0010-220	-----	1	DECAL
0010-230	-----	1	DECAL
0030	771702	1	DECAL-NOTICE, FUEL REQUIREMENTS

# Enclosure Group

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00





## Enclosure Group

REF NO	PART NO	QTY	DESCRIPTION
0010	-----		* WASHER, Flat, 3/8
0030	-----		* WASHER, Lock, 3/8
0070	-----		* CAPSCREW, Hex Head, 3/8-16 x 3/4
0110	204700GS		KIT-LATCH
0130	197316GS		SEAL
0160	204653GS		MOUNT, Vibration
0180	205225GS		HINGE
0190	204920GS		HINGE
0200	204852GS		HINGE
0210	207758GS		SEAL
0220	708937		ROOF
0230	708938		RAIL, Support
0240	708939		CORNER
0260	708898		DOOR, RH
0270	708896		DOOR, LH
0280	770036		DOOR -(Includes Ref. No. 0280-1)
0280-1	186049GS		HANDLE
0290	708909		RAIL, Support
0300	BA310477GS		PLATE-COVER
0310	708891		DOOR
0330	708940		RAIL-SUPPORT
0340	B310544GS		BRACKET
0350	708916		SUPPORT
0390	708893		DOOR
0400	314301GS		PANEL-GUARD -(Includes Warning Decals)
0410	314302GS		PANEL-GUARD -(Includes Warning Decals)
0420	-----		BASE
0430	708942		BULKHEAD-ENGINE
0440	708943		BULKHEAD-ALTERNATOR
0450	205368GS		SEAL
0490	770458		BADGE-FORTRESS
0500	770025		DECAL
1020	207652GS		KEY

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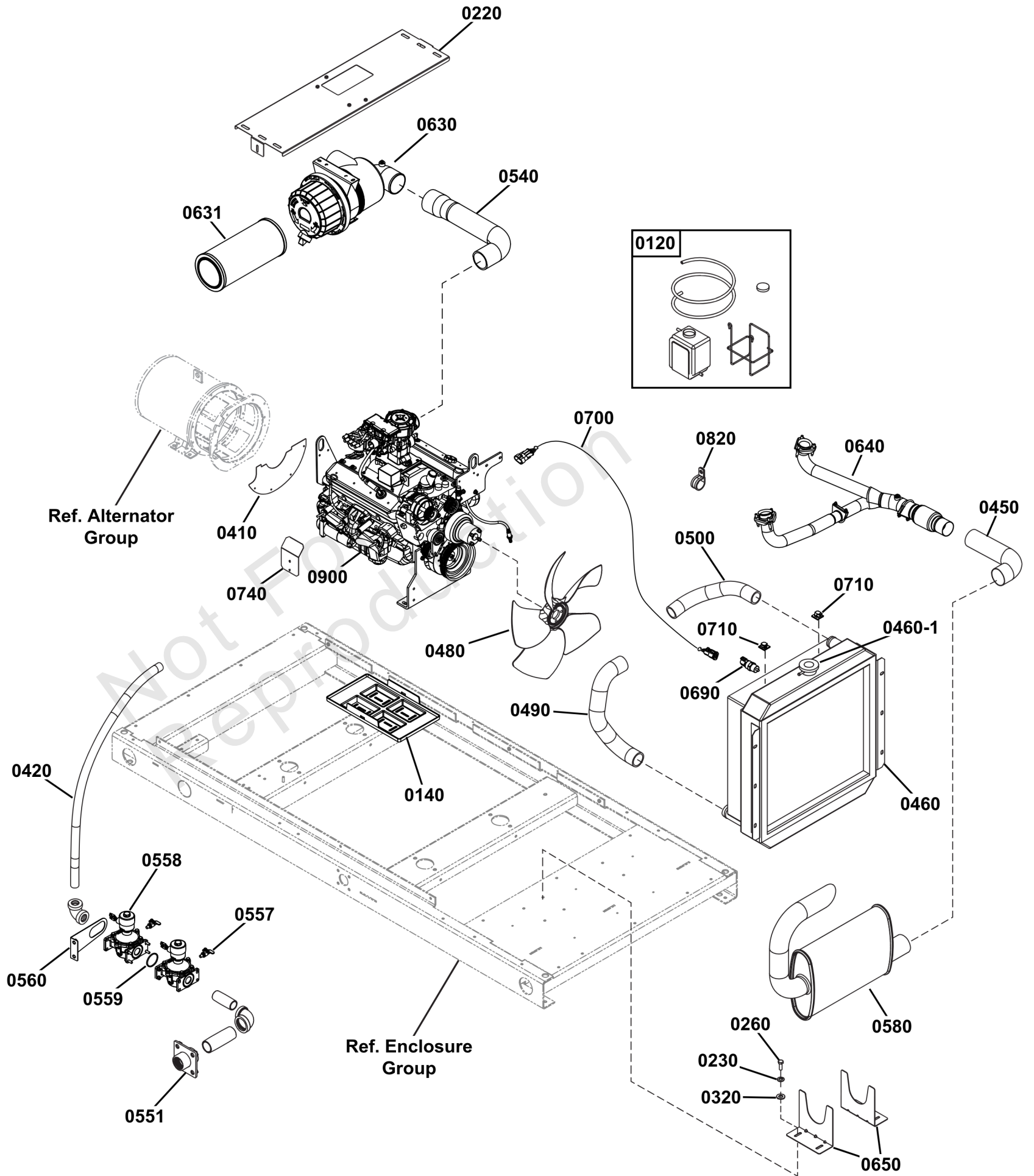
### Footnotes:

\* Items without part numbers are common fasteners and are available at your local hardware store.

# Engine Group

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00



## Engine Group

REF NO	PART NO	QTY	DESCRIPTION
0010	192669GS	1	CLAMP -(Not Illustrated)
0120	205226GS	1	BOTTLE-OVERFLOW
0140	205623GS	1	TRAY-BATTERY
0220	708758	1	BRACKET-AIR CLEANER
0230	-----	8	* LOCKWASHER, 1/4
0260	-----	22	* CAPSCREW, Hex Head, 1/4-20 x 3/4
0320	-----	22	* WASHER, Flat, 1/4
0410	B310532GS	1	COVER-DUST
0420	310809GS	1	HOSE-FUEL
0430	310811GS	1	CABLE-BTTRY, BLACK -(Not Illustrated)
0440	310812GS	1	CABLE-BTTRY, RED -(Not Illustrated)
0450	311971GS	1	TUBE
0460	312322GS	1	RADIATOR
0460-1	314566GS	1	CAP-RADIATOR
0460-2	314551GS	1	VALVE-DRAIN -(Not Illustrated)
0480	312710GS	1	FAN
0490	770027	1	HOSE
0500	313212GS	1	HOSE
0540	770028	1	TUBE-INTAKE
0551	BC310518GS	1	COUPLER
0557	312788GS	2	VALVE-BALL
0558	316258GS	2	VALVE-FUEL
0559	316259GS	1	O-RING
0560	-----	1	BRACKET, Fuel Solenoid
0580	707173	1	MUFFLER
0630	709905	1	FILTER-AIR
0631	770029	1	FILTER-CARTRIDGE
0640	706616	1	EXHAUST
0650	707174	2	BRACKET
0690	84011155	1	SENSOR, Low Coolant
0700	708762	1	HARNESS-WIRE, LOW COOLANT SESNOR
0710	197355GS	2	CLIP
0730	708763	1	HARNESS-WIRE -(Not Illustrated)
0740	-----	1	*HEAT SHIELD
0820	704270	1	CLAMP
0900	-----	1	ENGINE-5.7L

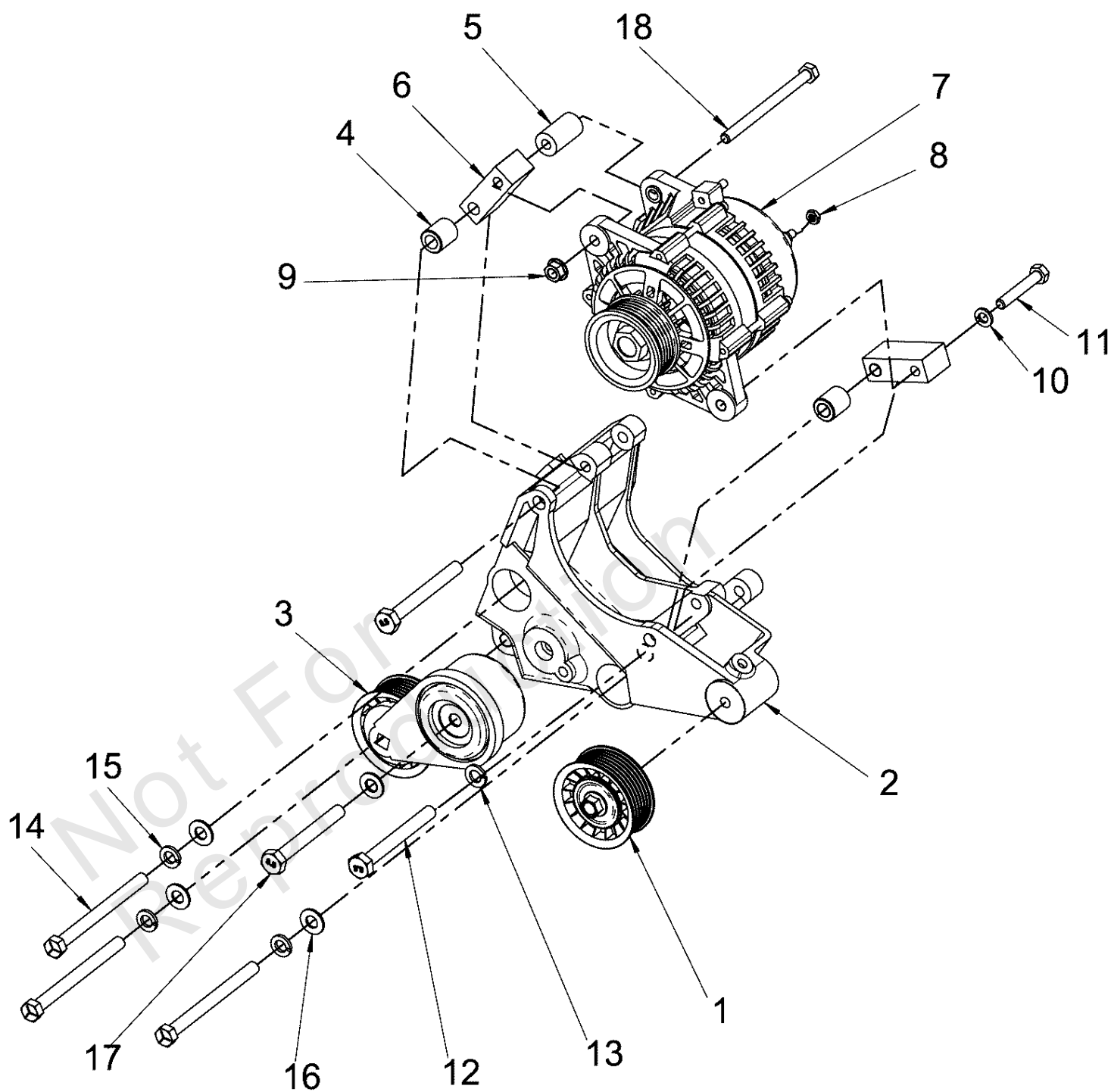
### Footnotes:

\* Items without part numbers are common fasteners. Purchase locally.

# Engine Group - Alternator

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00



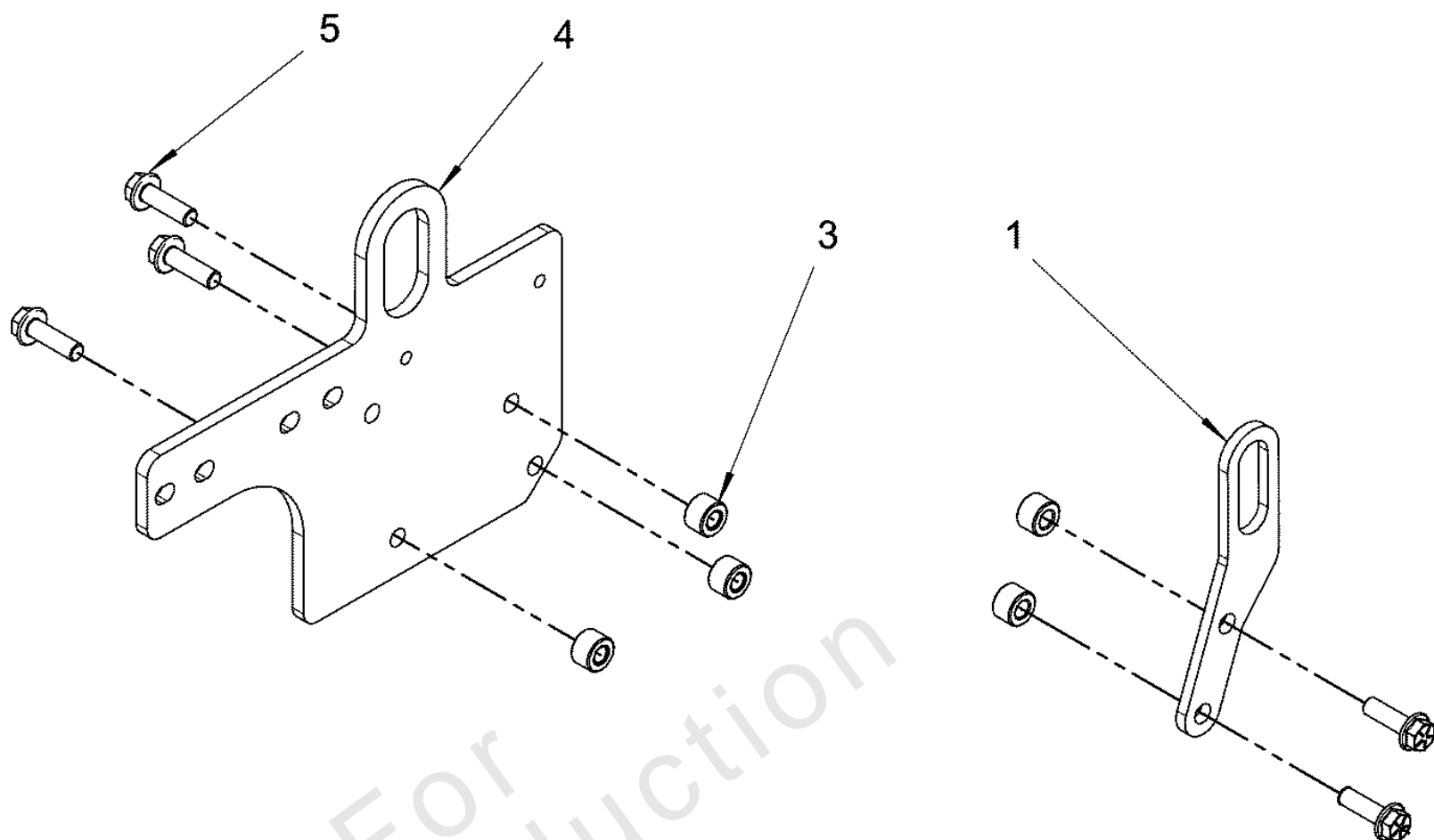
## Engine Group - Alternator

REF NO	PART NO	QTY	DESCRIPTION
1	708971		IDLER PULLEY
2	-----		* BRACKET -(*See footnote)
3	708972		PULLEY
4	-----		* SPACER -(*See footnote)
5	-----		* SPACER -(*See footnote)
6	-----		* BLOCK MOUNT -(*See footnote)
7	708998		ALTERNATOR
8	-----		* NUT -(*See footnote)
9	-----		* NUT -(*See footnote)
10	-----		* WASHER -(*See footnote)
11	-----		* BOLT -(*See footnote)
12	-----		* BOLT -(*See footnote)
13	-----		* WASHER -(*See footnote)
14	-----		* BOLT -(*See footnote)
15	-----		* WASHER -(*See footnote)
16	-----		* WASHER -(*See footnote)
17	-----		* BOLT -(*See footnote)
18	-----		* BOLT -(*See footnote)

# Engine Group - Belt & Lift Eye

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00



## Engine Group - Belt & Lift Eye

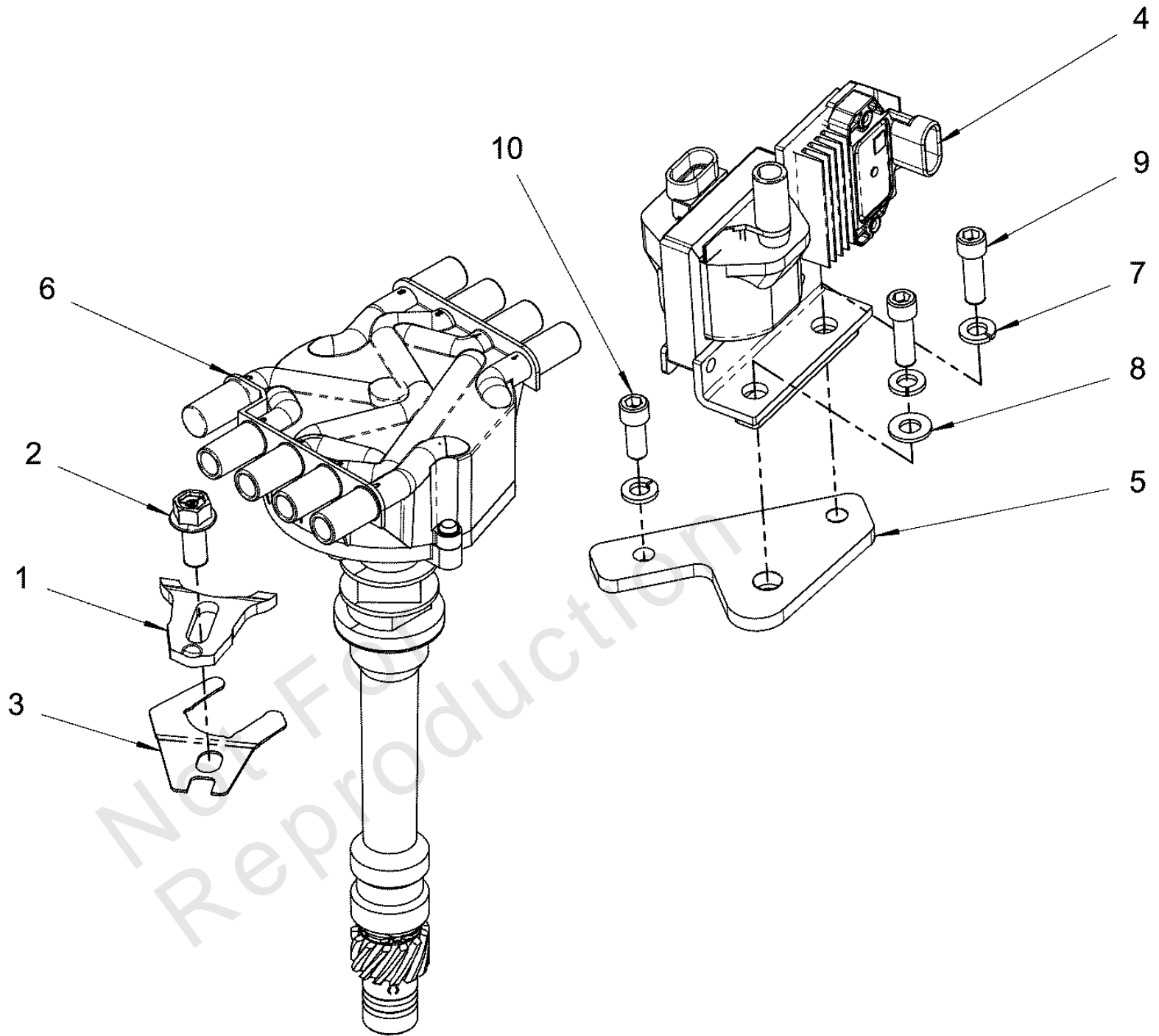
REF NO	PART NO	QTY	DESCRIPTION
1	-----		* LIFT EYE BRACKET -(*See footnote)
2	770038		BELT, ALTERNATOR -(Not Illustrated)
3	-----		* SPACER -(*See footnote)
4	-----		* EXHAUST BRACKET -(*See footnote)
5	-----		* BOLT -(*See footnote)

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# Engine Group - Coil & Distributor

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00





## Engine Group - Coil & Distributor

REF NO	PART NO	QTY	DESCRIPTION
1	-----	1	* CLAMP -(*See footnote)
2	-----	1	* BOLT -(*See footnote)
3	770851	1	YOKE
4	709458	1	IGNITION COIL
5	-----	1	* BRACKET -(*See footnote)
6	708999	1	DISTRIBUTOR
7	-----	3	* WASHER -(*See footnote)
8	-----	1	* WASHER -(*See footnote)
9	-----	2	* BOLT -(*See footnote)
10	-----	1	* BOLT -(*See footnote)

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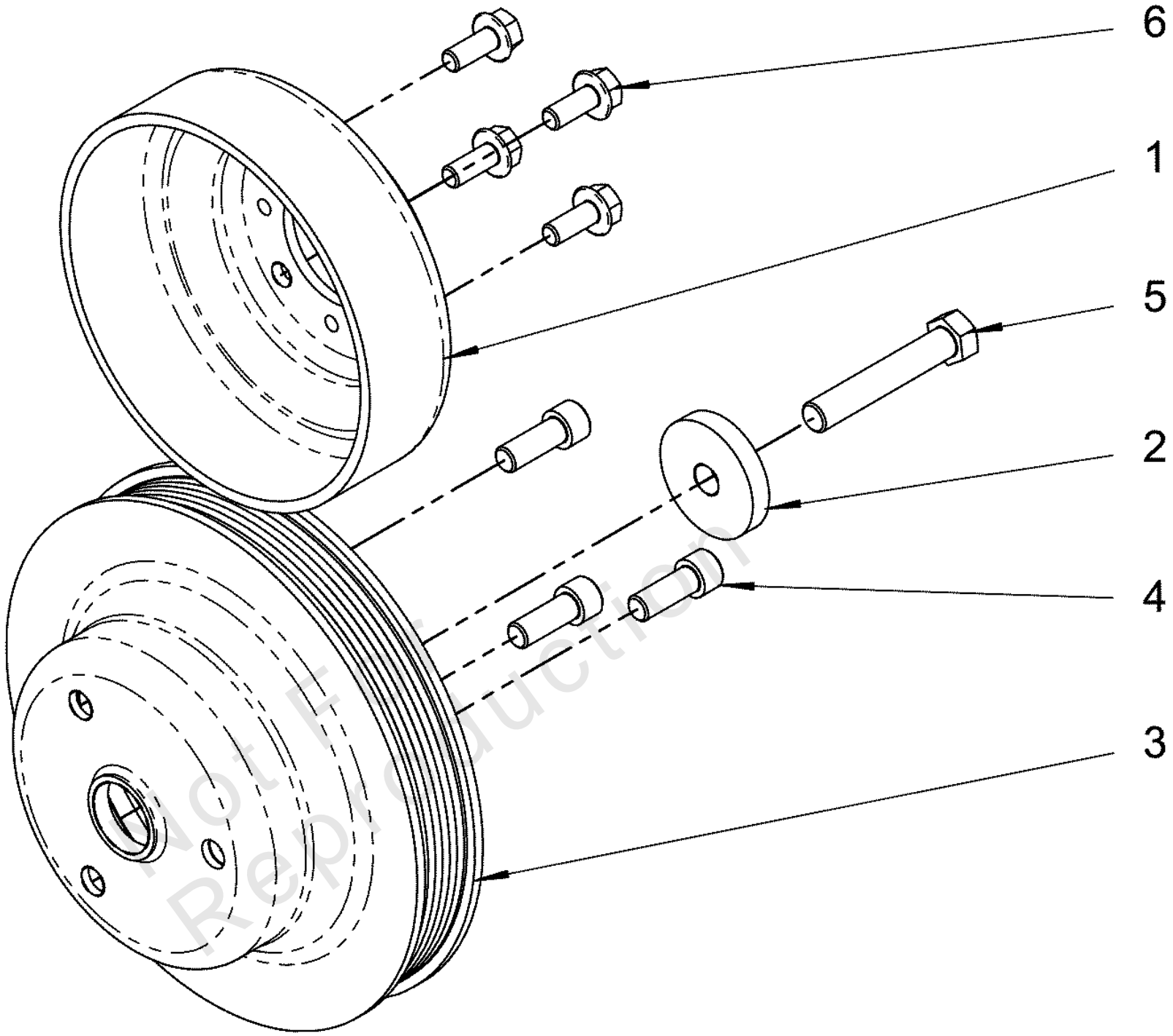
**Footnotes:**

Note:\* Speak to your authorized Briggs & Stratton dealer. For dealers, speak to Briggs & Stratton Technical Support.

# Engine Group - Crank Pulley Mount

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00



## Engine Group - Crank Pulley Mount

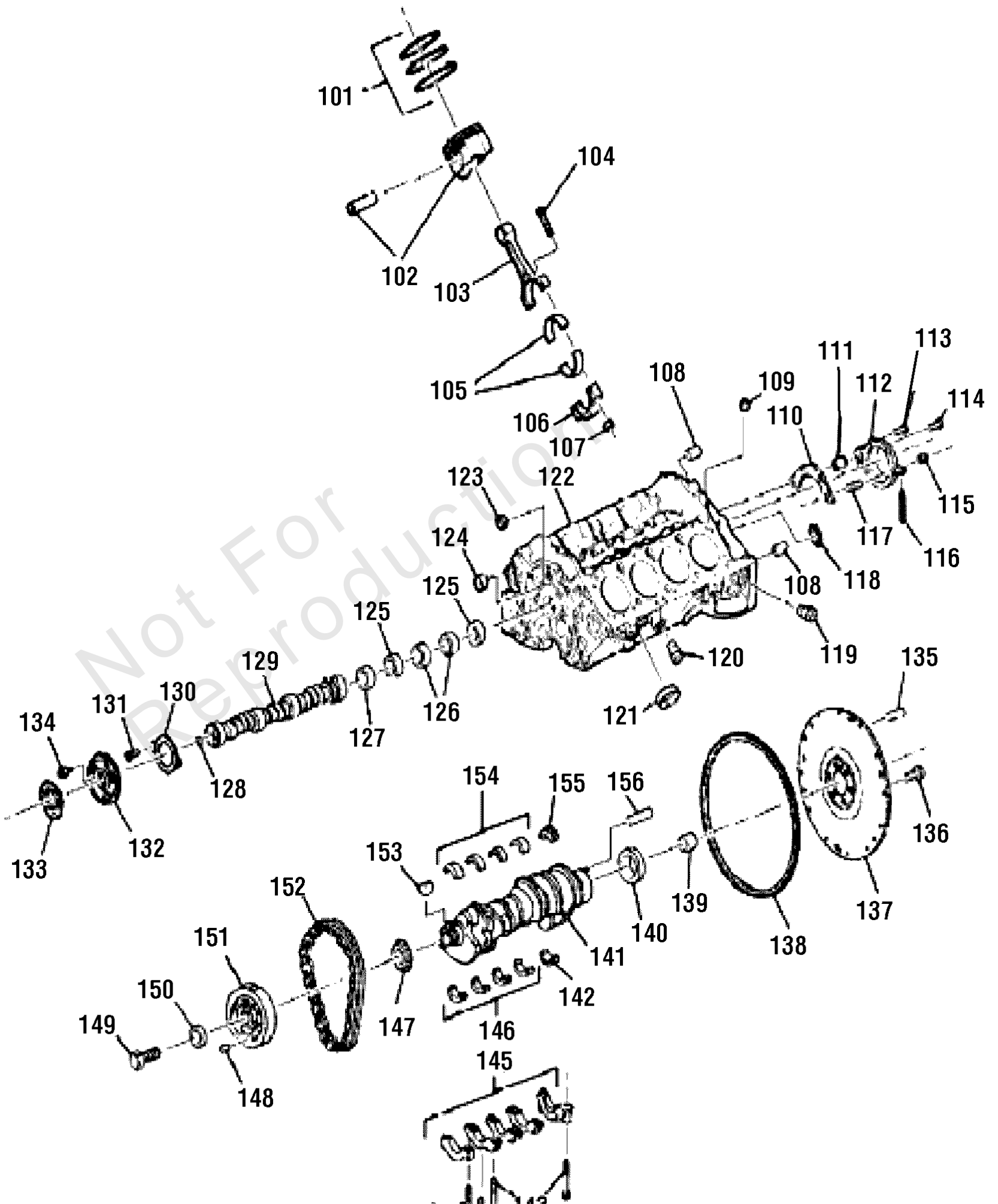
REF NO	PART NO	QTY	DESCRIPTION
1	708973		FAN PULLEY
2	-----		* WASHER -(*See footnote)
3	708974		CRANK PULLEY
4	-----		* BOLT -(*See footnote)
5	-----		* BOLT -(*See footnote)
6	-----		* BOLT -(*See footnote)

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# Engine Group - Cylinder Block

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00



## Engine Group - Cylinder Block

REF NO	PART NO	QTY	DESCRIPTION
101	-----		NUT, Hex Nyloc -(*See footnote)
102	-----		* PISTON -(*See footnote)
103	-----		* ROD -(*See footnote)
104	-----		* BOLT -(*See footnote)
105	-----		* BEARING -(*See footnote)
106	-----		* CAP -(*See footnote)
107	-----		* NUT -(*See footnote)
108	-----		* PIN -(*See footnote)
109	-----		* PLUG -(*See footnote)
110	-----		* GASKET -(*See footnote)
111	-----		* PIN -(*See footnote)
112	-----		* SEAL -(*See footnote)
113	-----		* BOLT -(*See footnote)
114	-----		* BOLT -(*See footnote)
115	-----		* NUT -(*See footnote)
116	-----		* STUD -(*See footnote)
117	-----		* STUD -(*See footnote)
118	-----		* EXPANSION PLUG -(*See footnote)
119	-----		* PLUG -(*See footnote)
120	-----		* PLUG -(*See footnote)
121	708848		WATER PLUG
122	-----		* CYLINDER BLOCK -(*See footnote)
123	-----		HUB, EZT Transmission -(*See footnote)
124	-----		NUT, EZT Transmission -(*See footnote)
125	-----		* BEARING POS 2-5 -(*See footnote)
126	-----		* BEARING POS 3-4 -(*See footnote)
127	-----		* BEARING POS 1 -(*See footnote)
128	-----		* PIN -(*See footnote)
129	-----		* CAMSHAFT -(*See footnote)

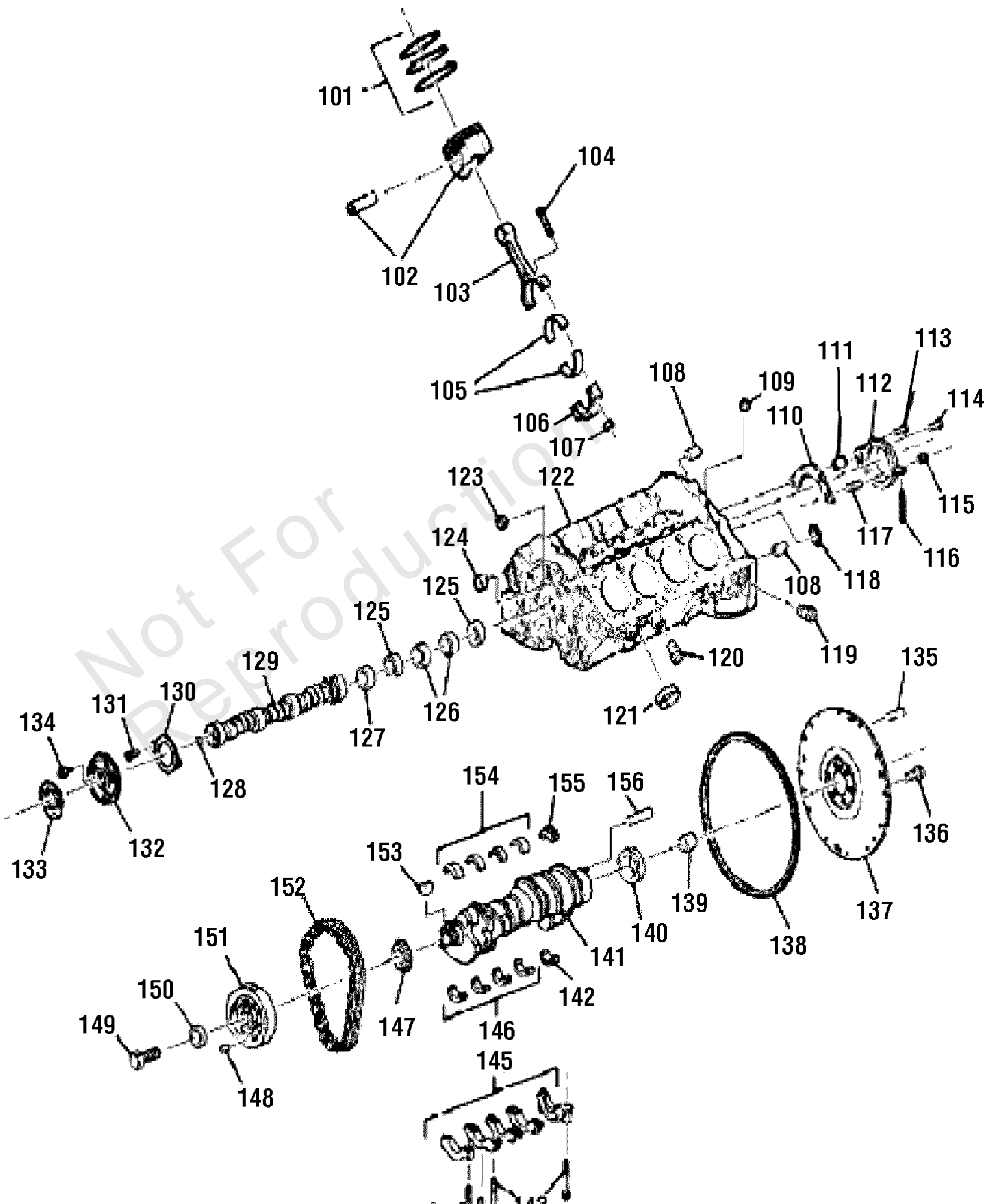
### Footnotes:

Note:\* Speak to your authorized Briggs & Stratton dealer. For dealers, speak to Briggs & Stratton Technical Support.

# Engine Group - Cylinder Block

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00



## Engine Group - Cylinder Block

REF NO	PART NO	QTY	DESCRIPTION
130	-----		* RETAINER -(*See footnote)
131	-----		* BOLT -(*See footnote)
132	-----		* SPROCKET -(*See footnote)
133	-----		* RING -(*See footnote)
134	-----		* BOLT -(*See footnote)
135	-----		* WEIGHT -(*See footnote)
136	-----		* BOLT -(*See footnote)
137	-----		* FLYWHEEL -(*See footnote)
138	-----		* GEAR -(*See footnote)
139	-----		* BEARING -(*See footnote)
140	708849		SEAL
141	-----		* CRANKSHAFT -(*See footnote)
142	-----		* BEARING -(*See footnote)
143	-----		* BOLT -(*See footnote)
144	-----		* STUD -(*See footnote)
145	-----		* CAP -(*See footnote)
146	-----		* BEARING -(*See footnote)
147	-----		* SPROCKET -(*See footnote)
148	-----		* PIN -(*See footnote)
149	-----		* BOLT -(*See footnote)
150	-----		* WASHER -(*See footnote)
151	80024095		* BALANCER -(*See footnote)
152	-----		* CHAIN -(*See footnote)
153	-----		* KEY -(*See footnote)
154	-----		* BEARING -(*See footnote)
155	-----		* BEARING -(*See footnote)
156	-----		* PIN -(*See footnote)

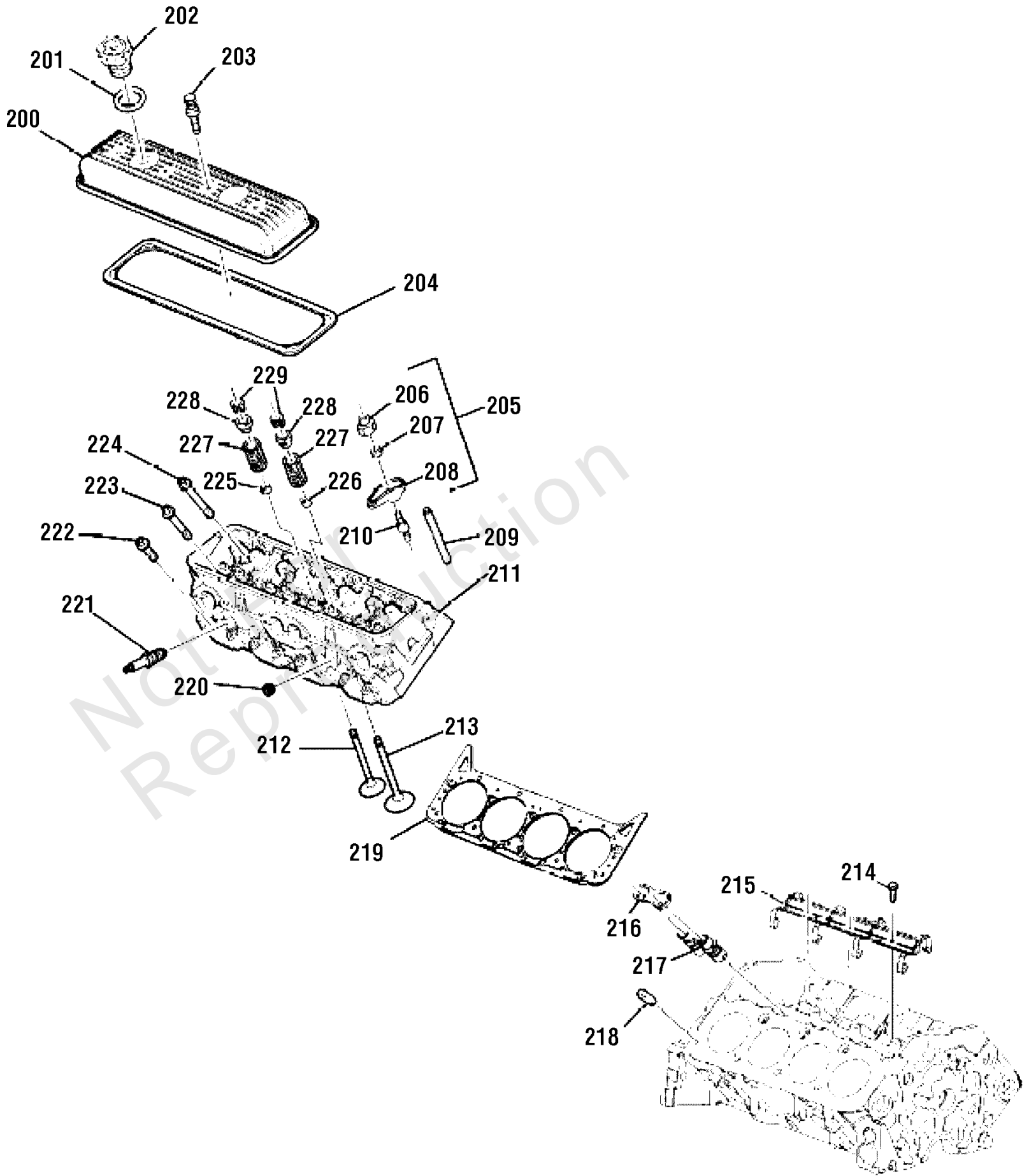
### Footnotes:

Note:\* Speak to your authorized Briggs & Stratton dealer. For dealers, speak to Briggs & Stratton Technical Support.

# Engine Group - Cylinder Head

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00





## Engine Group - Cylinder Head

REF NO	PART NO	QTY	DESCRIPTION
200	-----	1	* COVER -(*See footnote)
201	-----	1	* SEAL -(*See footnote)
202	709679	1	CAP
203	-----	8	* BOLT -(*See footnote)
204	708852	2	VALVE GASKET
205	-----	16	* KIT -(*See footnote)
206	-----	16	* NUT -(*See footnote)
207	-----	16	* BALL -(*See footnote)
208	-----	16	* ARM -(*See footnote)
209	-----	16	* ROD -(*See footnote)
210	-----	16	* STUD -(*See footnote)
211	-----	2	* HEAD -(*See footnote)
211	-----	2	* HEAD HD (OPTIONAL) -(*See footnote)
212	-----	8	* EXHAUST VALVE -(*See footnote)
213	-----	8	* INTAKE VALVE -(*See footnote)
214	-----	8	* BOLT -(*See footnote)
215	-----	1	* RETAINER -(*See footnote)
216	-----	8	* GUIDE -(*See footnote)
217	-----	16	* TANK, Fuel -(*See footnote)
218	-----	8	* PIN -(*See footnote)
219	708851	2	GASKET
220	-----	1	* PLUG -(*See footnote)
221	708819	8	SPARK PLUG
222	-----	16	* BOLT -(*See footnote)
223	-----	4	* BOLT -(*See footnote)
224	-----	14	* BOLT -(*See footnote)
225	-----	8	* SEAL -(*See footnote)
226	-----	8	* SEAL -(*See footnote)
227	-----	16	* SPRING -(*See footnote)
228	-----	16	* CAP -(*See footnote)

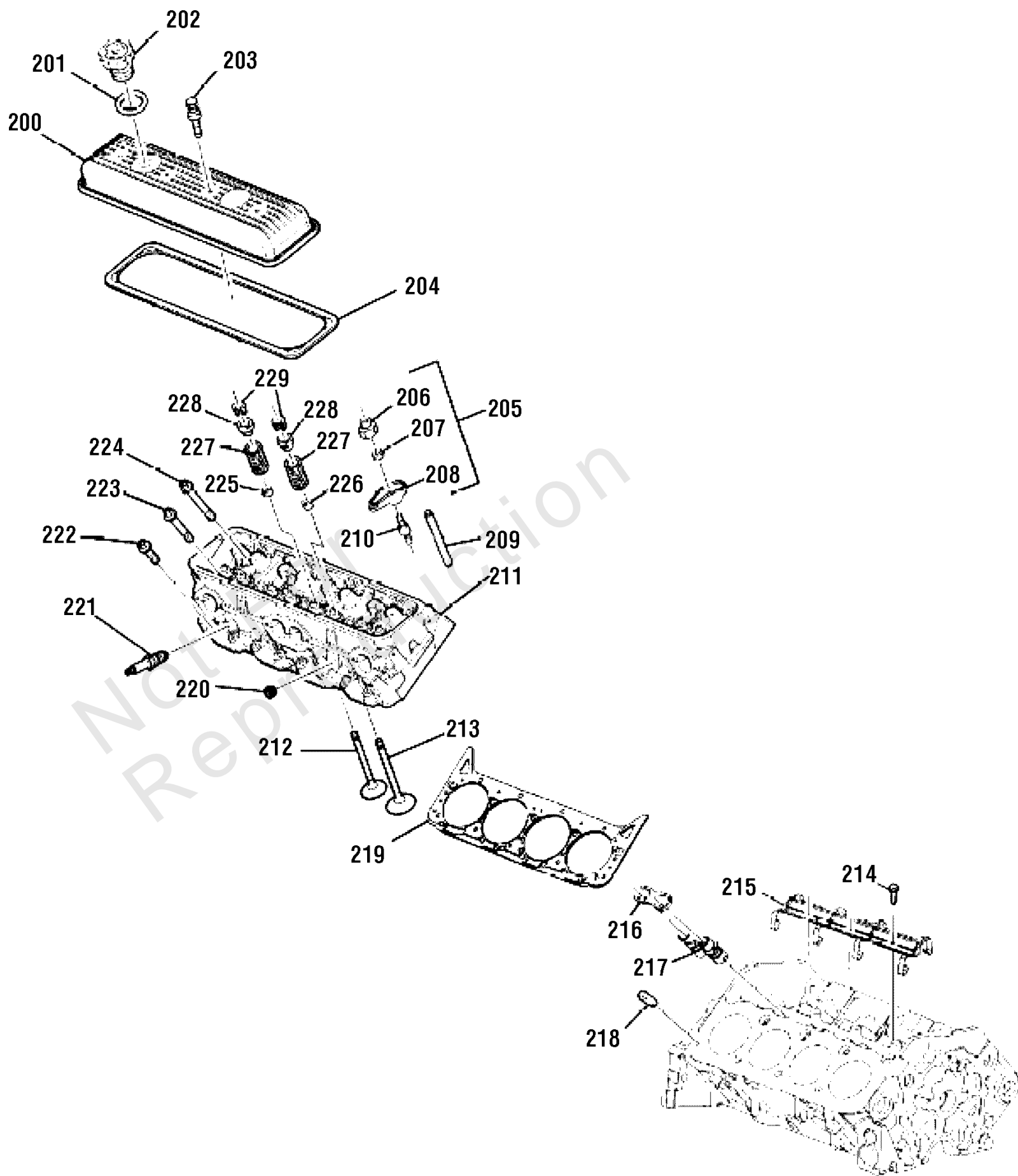
### Footnotes:

Note:\* Speak to your authorized Briggs & Stratton dealer. For dealers, speak to Briggs & Stratton Technical Support.

# Engine Group - Cylinder Head

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00



## Engine Group - Cylinder Head

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REF NO	PART NO	QTY	DESCRIPTION
229	-----	32	* KEY -(*See footnote)

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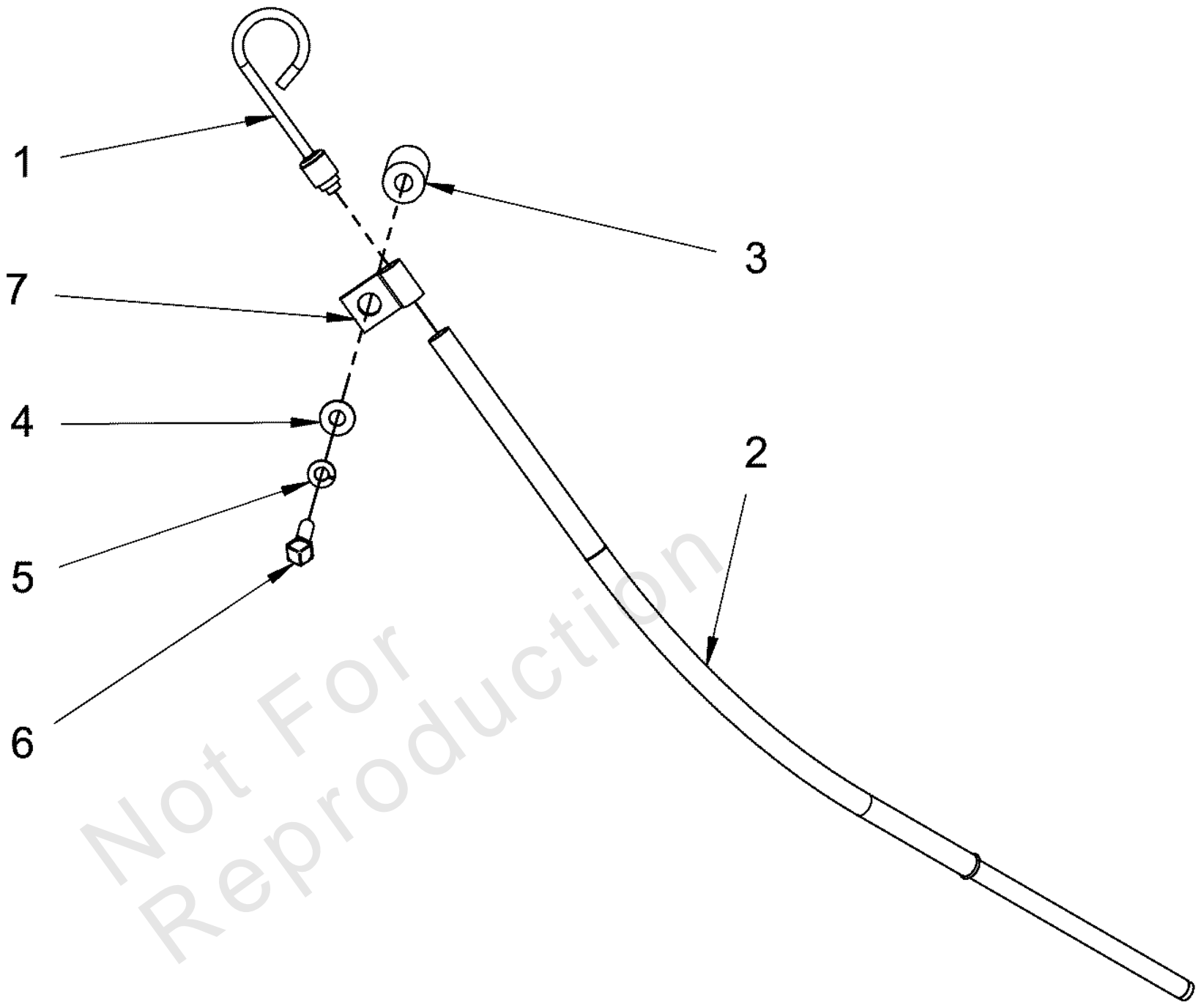
**Footnotes:**

Note:\* Speak to your authorized Briggs & Stratton dealer. For dealers, speak to Briggs & Stratton Technical Support.

# Engine Group - Dipstick & Tube

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00



## Engine Group - Dipstick & Tube

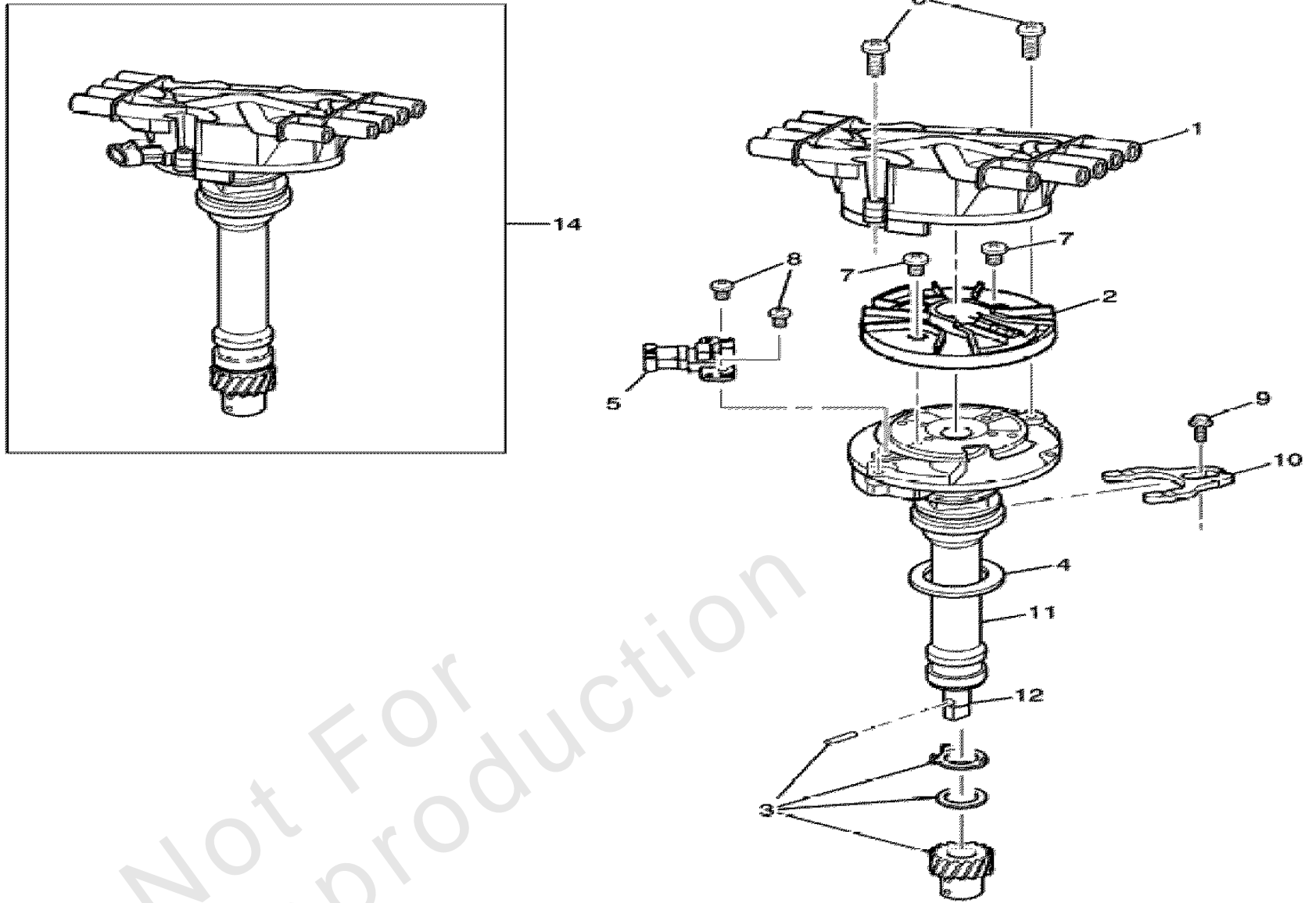
REF NO	PART NO	QTY	DESCRIPTION
1	708989		DIPSTICK
2	708991		TUBE
3	-----		* SPACER -(*See footnote)
4	-----		* WASHER -(*See footnote)
5	-----		* WASHER -(*See footnote)
6	-----		* BOLT -(*See footnote)
7	-----		* CLAMP -(*See footnote)

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# Engine Group - Distributor

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00



## Engine Group - Distributor

REF NO	PART NO	QTY	DESCRIPTION
1	709460		CAP
2	709461		ROTOR, DISTRIBUTOR
3	-----		* GEAR -(*See footnote)
4	-----		* GASKET -(*See footnote)
5	708844		SENSOR
6	-----		* BOLT -(*See footnote)
7	-----		* BOLT -(*See footnote)
8	-----		* BOLT -(*See footnote)
9	-----		* BOLT -(*See footnote)
10	-----		* CLAMP -(*See footnote)
11	-----		* HOUSING -(*See footnote)
12	-----		* SHAFT -(*See footnote)
14	708999		DISTRIBUTOR

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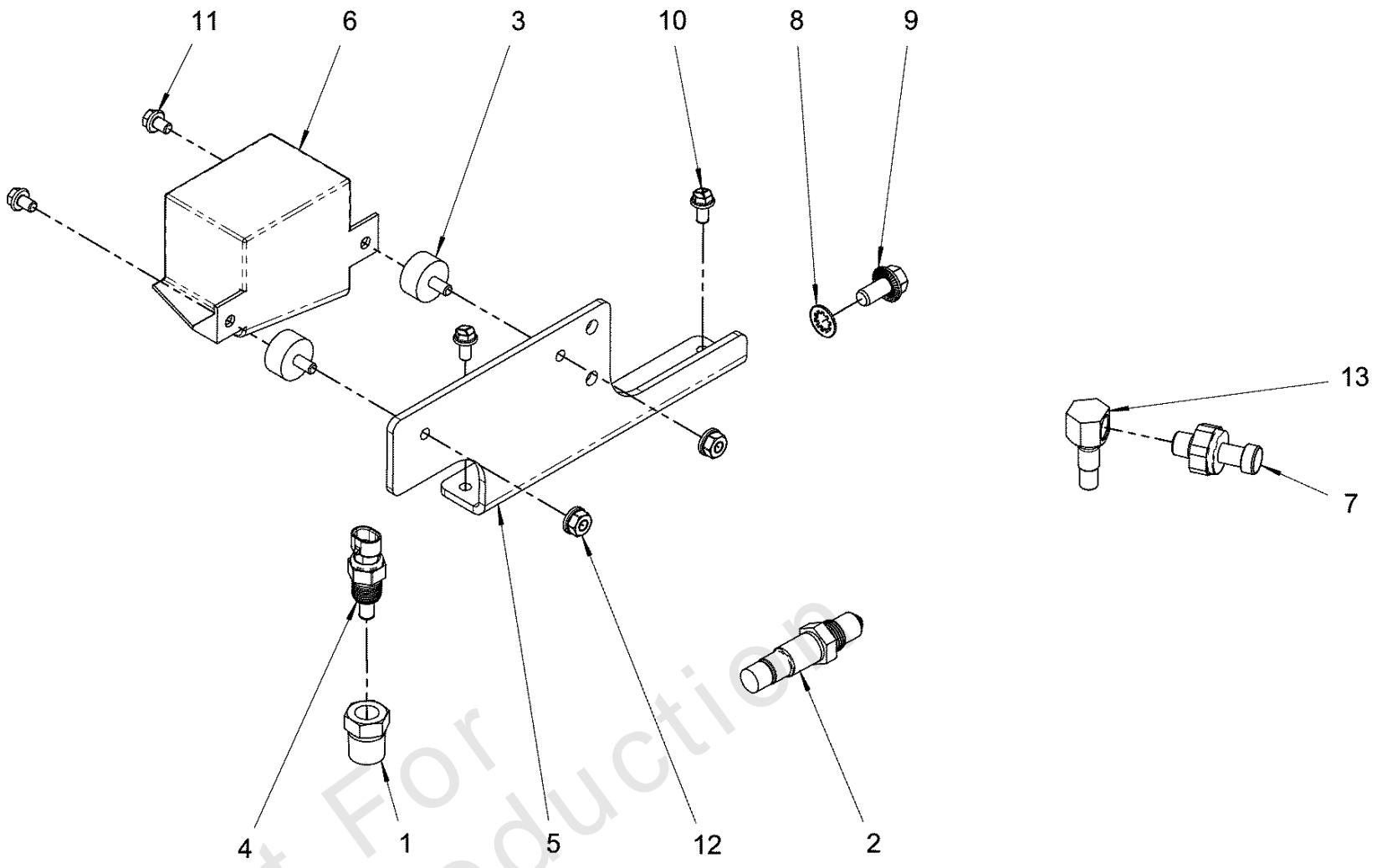
**Footnotes:**

Note:\* Speak to your authorized Briggs & Stratton dealer. For dealers, speak to Briggs & Stratton Technical Support.

# Engine Group - Electrical

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00





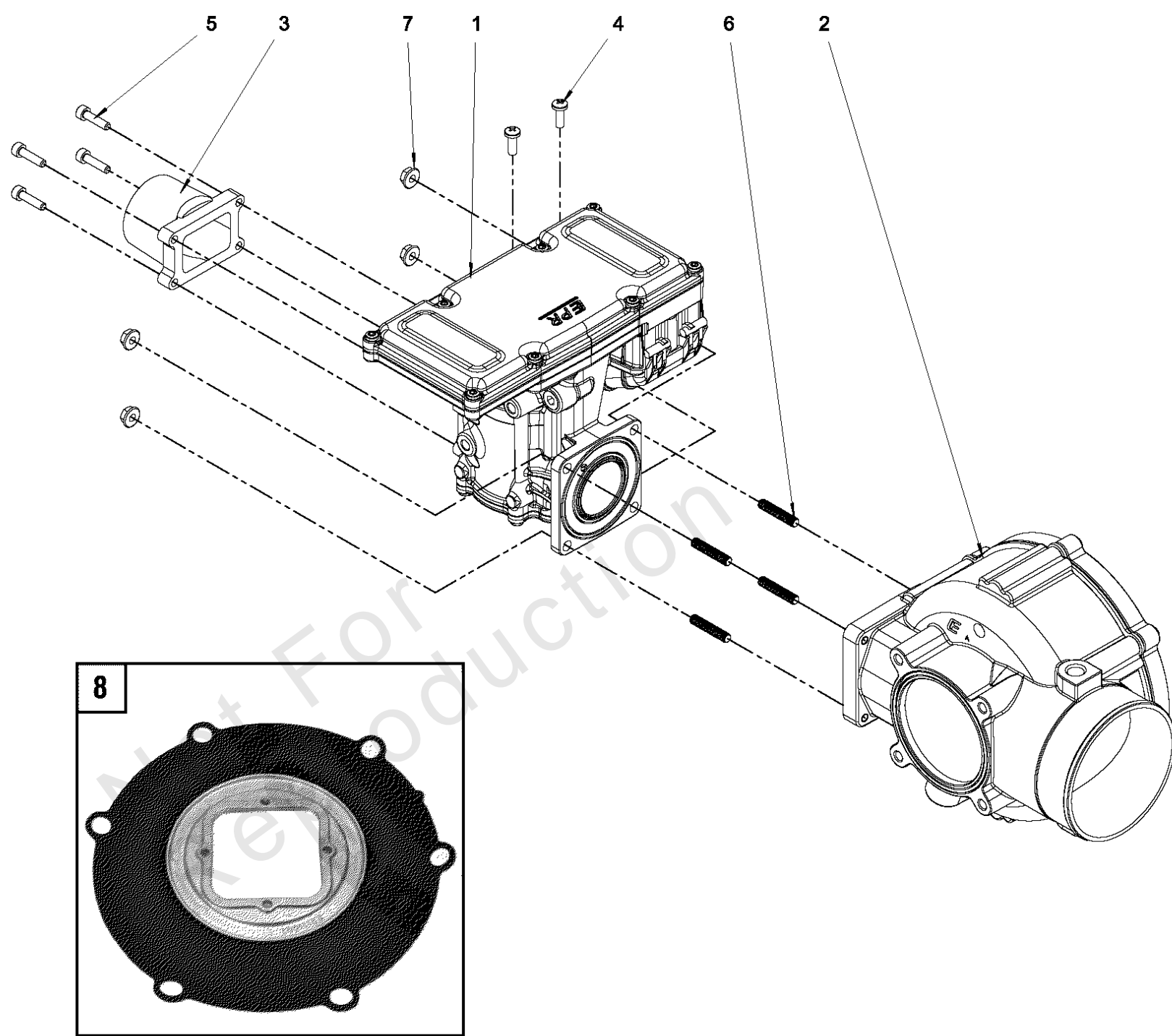
## Engine Group - Electrical

REF NO	PART NO	QTY	DESCRIPTION
1	-----		* BUSHING -(*See footnote)
2	708872		O2 SENSOR
3	-----		* RELAY BOX ISOLATOR -(*See footnote)
4	708995		COOLANT SENSOR
5	-----		* BRACKET -(*See footnote)
6	708997		MAIN ENGINE HARNESS
7	708873		OIL PRESSURE SENSOR
8	-----		* WASHER -(*See footnote)
9	-----		* BOLT -(*See footnote)
10	-----		* BOLT -(*See footnote)
11	-----		* BOLT -(*See footnote)
12	-----		* NUT -(*See footnote)
13	708993		FITTING

# Engine Group - EPR

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00



## Engine Group - EPR

REF NO	PART NO	QTY	DESCRIPTION
1	709462		PROGRAMMED EPR
2	708988		MIXER
3	-----		* FITTING
4	-----		* SCREW
5	-----		* BOLT
6	-----		* STUD
7	-----		* NUT
8	708968		MIXER REPAIR KIT

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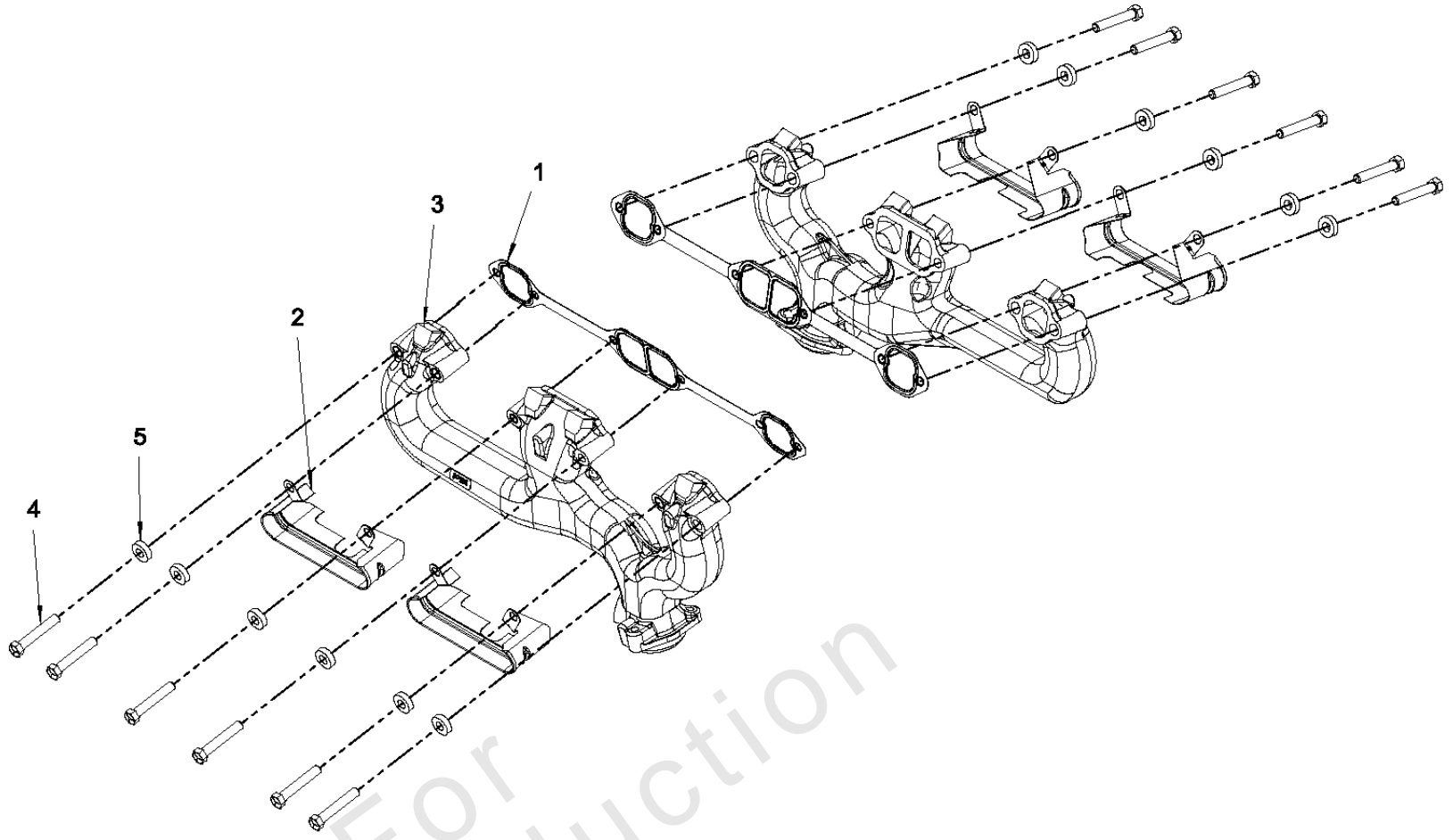
**Footnotes:**

\* Contact B&S Answer Center at 1-800-759-2744 or [tech\\_answercenter@basco.com](mailto:tech_answercenter@basco.com) for assistance in ordering.

# Engine Group - Exhaust Manifold

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00



## Engine Group - Exhaust Manifold

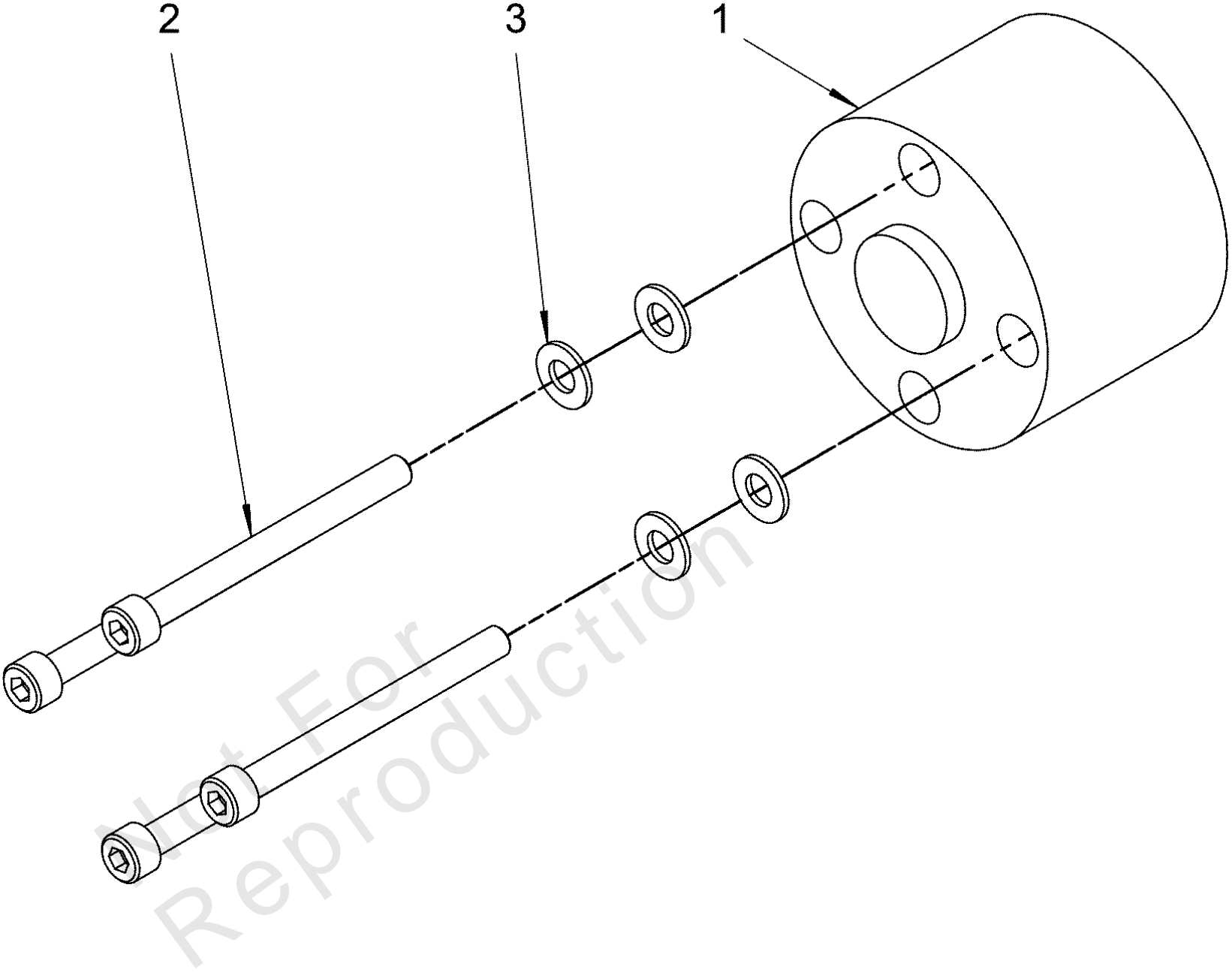
REF NO	PART NO	QTY	DESCRIPTION
1	709000		GASKET
2	-----		* HEAT SHIELD -(*See footnote)
3	-----		* EXHAUST MANIFOLD -(*See footnote)
4	-----		* BOLT -(*See footnote)
5	-----		* WASHER -(*See footnote)

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**Engine Group - Fan Spacer**

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00



## Engine Group - Fan Spacer

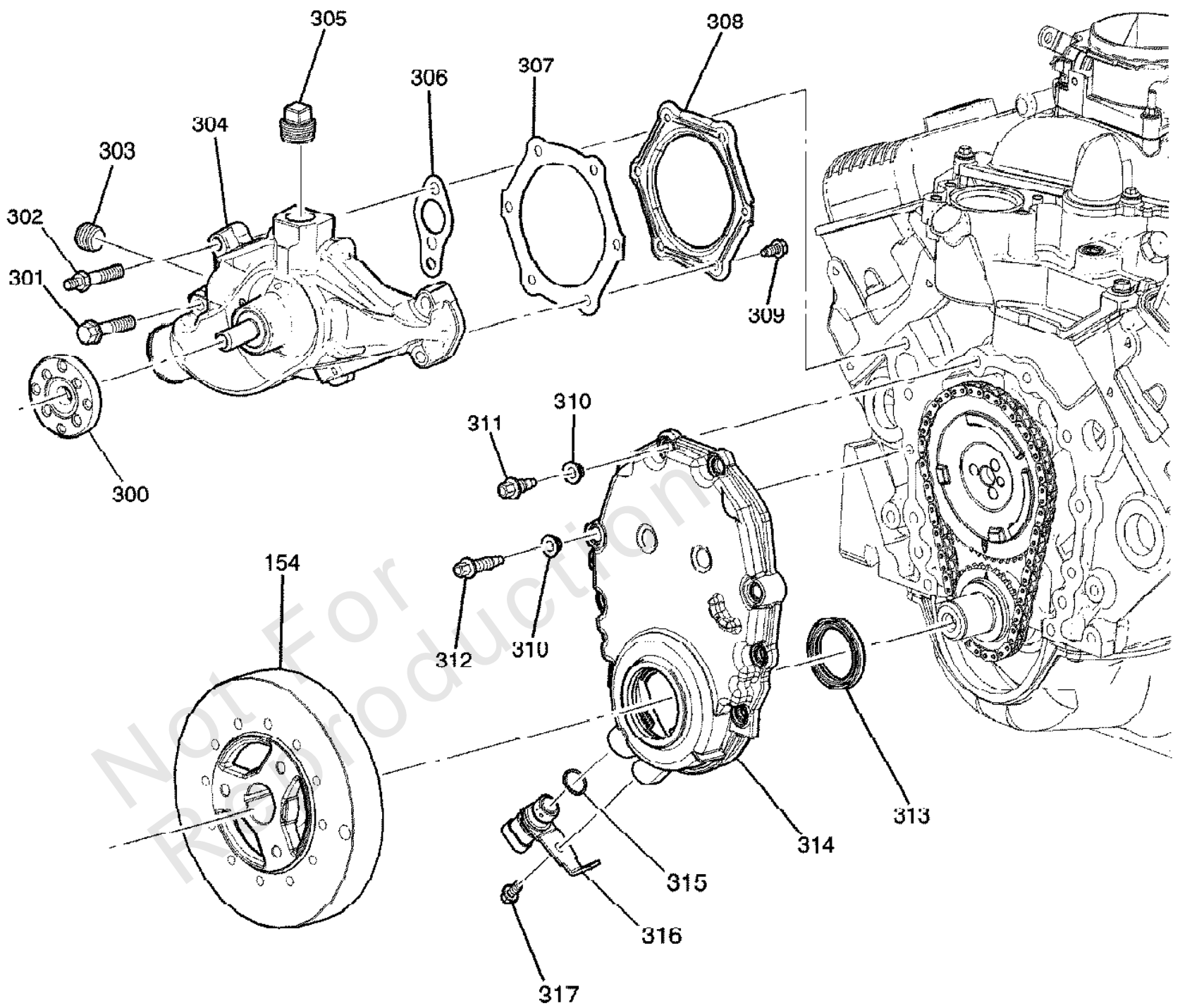
REF NO	PART NO	QTY	DESCRIPTION
1	708975		SPACER
2	-----		* BOLT -(*See footnote)
3	-----		* WASHER -(*See footnote)

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# Engine Group - Front Cover

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00





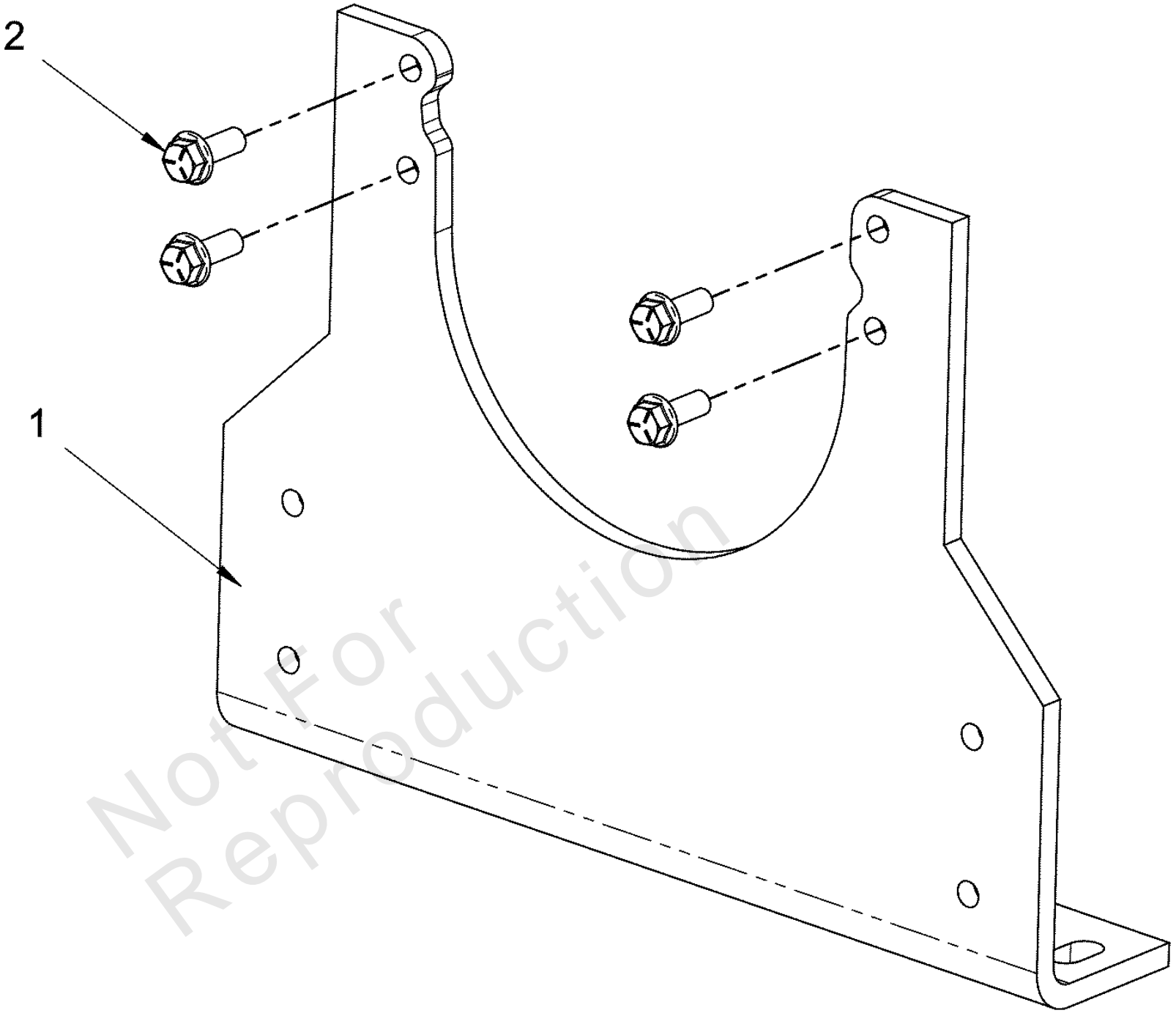
## Engine Group - Front Cover

REF NO	PART NO	QTY	DESCRIPTION
154	-----	1	* CRANKSHAFT BALANCER -(*See footnote)
300	-----	1	* HUB -(*See footnote)
302	-----	1	* STUD -(*See footnote)
303	-----	1	* PLUG -(*See footnote)
304	709680	1	PUMP-WATER
305	-----	1	* PLUG -(*See footnote)
306	709681	2	WATER PUMP GASKET
307	-----	1	* GASKET -(*See footnote)
308	-----		* COVER -(*See footnote)
311	-----	6	* BOLT -(*See footnote)
312	-----	6	* BOLT -(*See footnote)
313	-----		* SEAL -(*See footnote)
314	-----	1	* COVER -(*See footnote)
315	-----		* SEAL -(*See footnote)
316	80024131	1	SENSOR -(*See footnote)
317	-----	1	* BOLT -(*See footnote)

# Engine Group - Front Pedestal Mount

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00



## Engine Group - Front Pedestal Mount

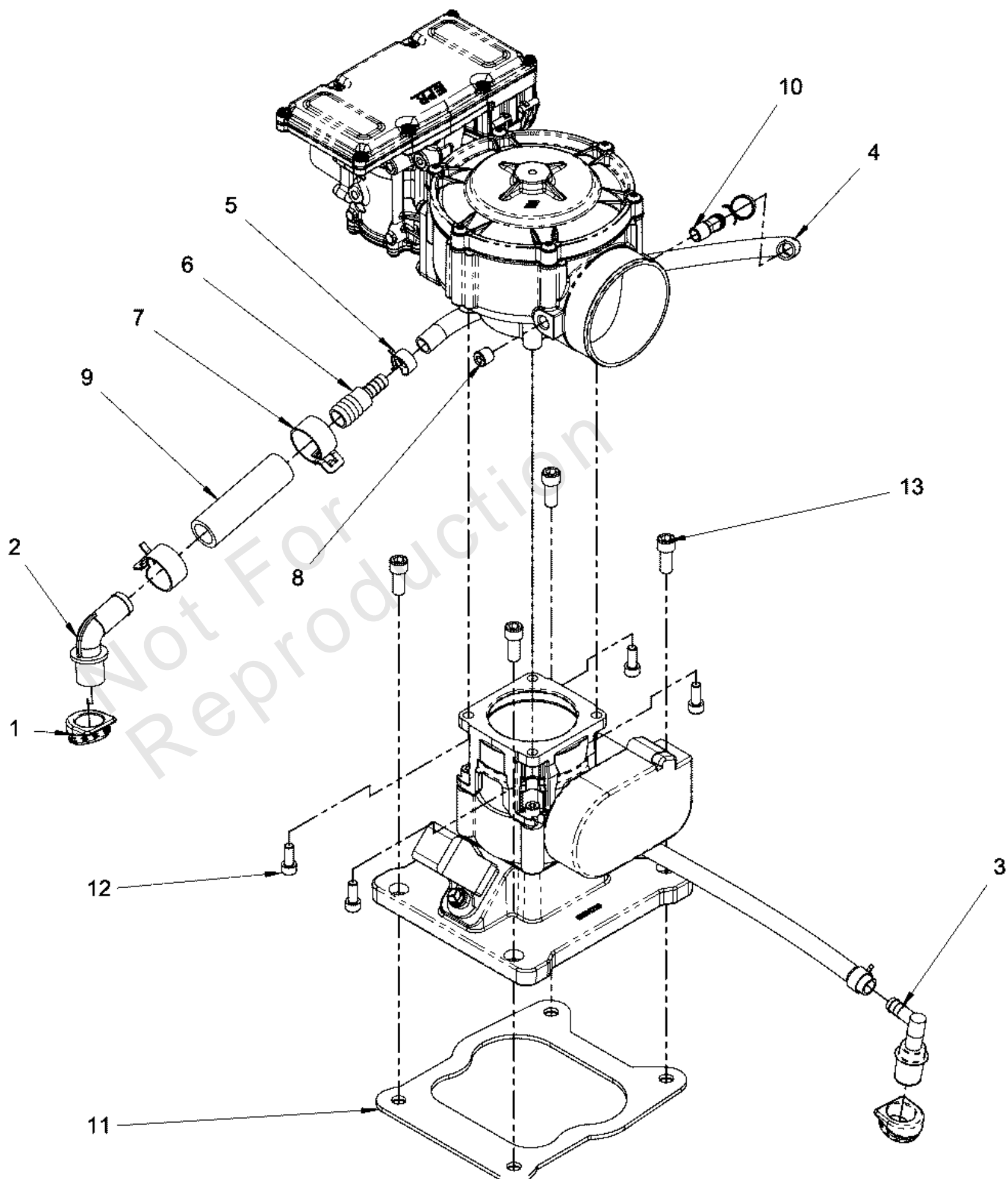
REF NO	PART NO	QTY	DESCRIPTION
1	-----		* PEDESTAL MOUNT -(*See footnote)
2	-----		* BOLT -(*See footnote)

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# Engine Group - Fuel

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00



## Engine Group - Fuel

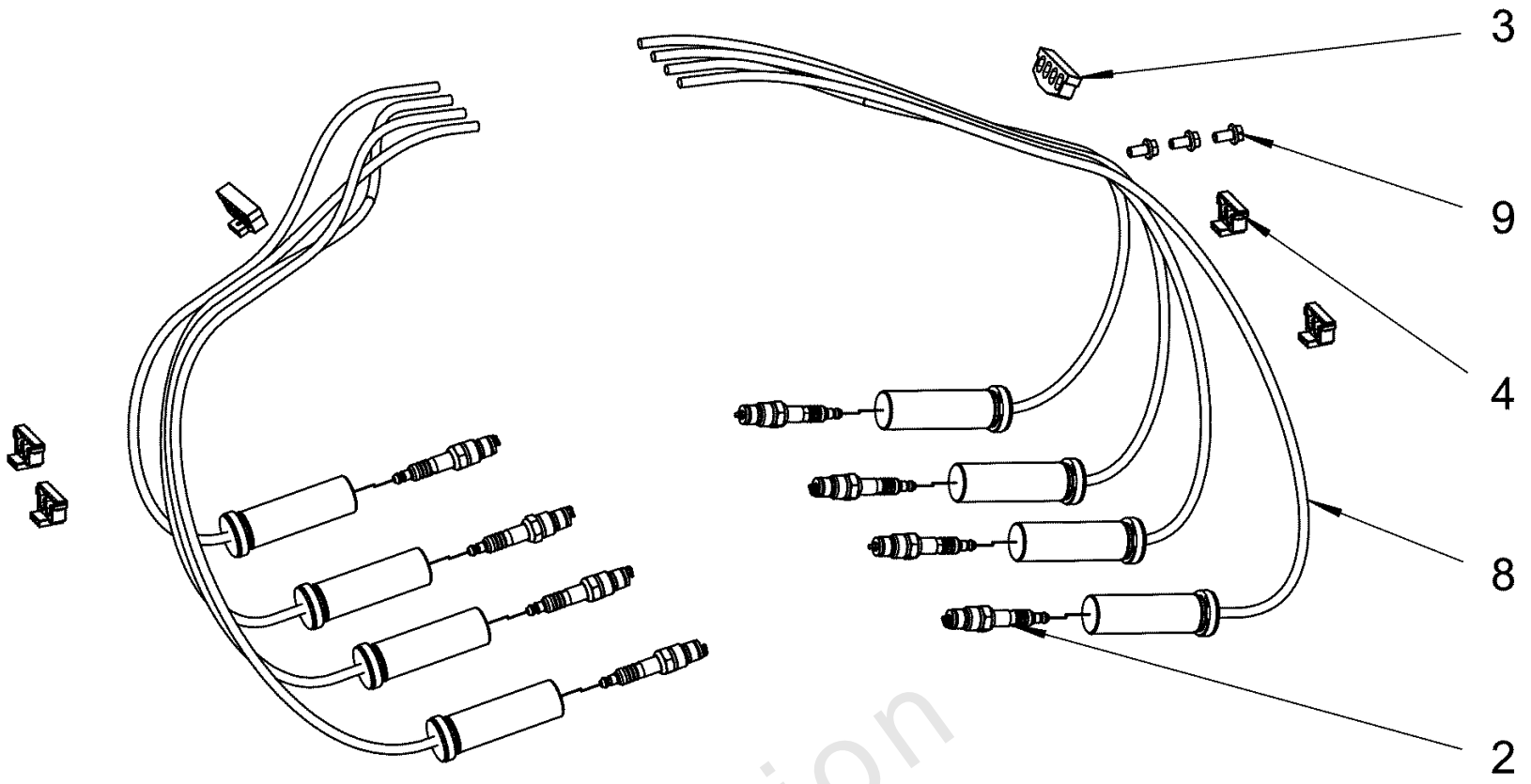
REF NO	PART NO	QTY	DESCRIPTION
1	708976		GROMMET
2	708978		ELBOW
3	708979		PCV VALVE
4	708980		HOSE, FUEL, 22"
5	708982		CLAMP
6	708861		ADAPTER
7	708983		CLAMP
8	-----		* PLUG -(*See footnote)
9	708986		TUBE
10	-----		* FITTING -(*See footnote)
11	709407		GASKET
12	-----		* BOLT -(*See footnote)
13	-----		* BOLT -(*See footnote)

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# Engine Group - Ignition Wires

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00



## Engine Group - Ignition Wires

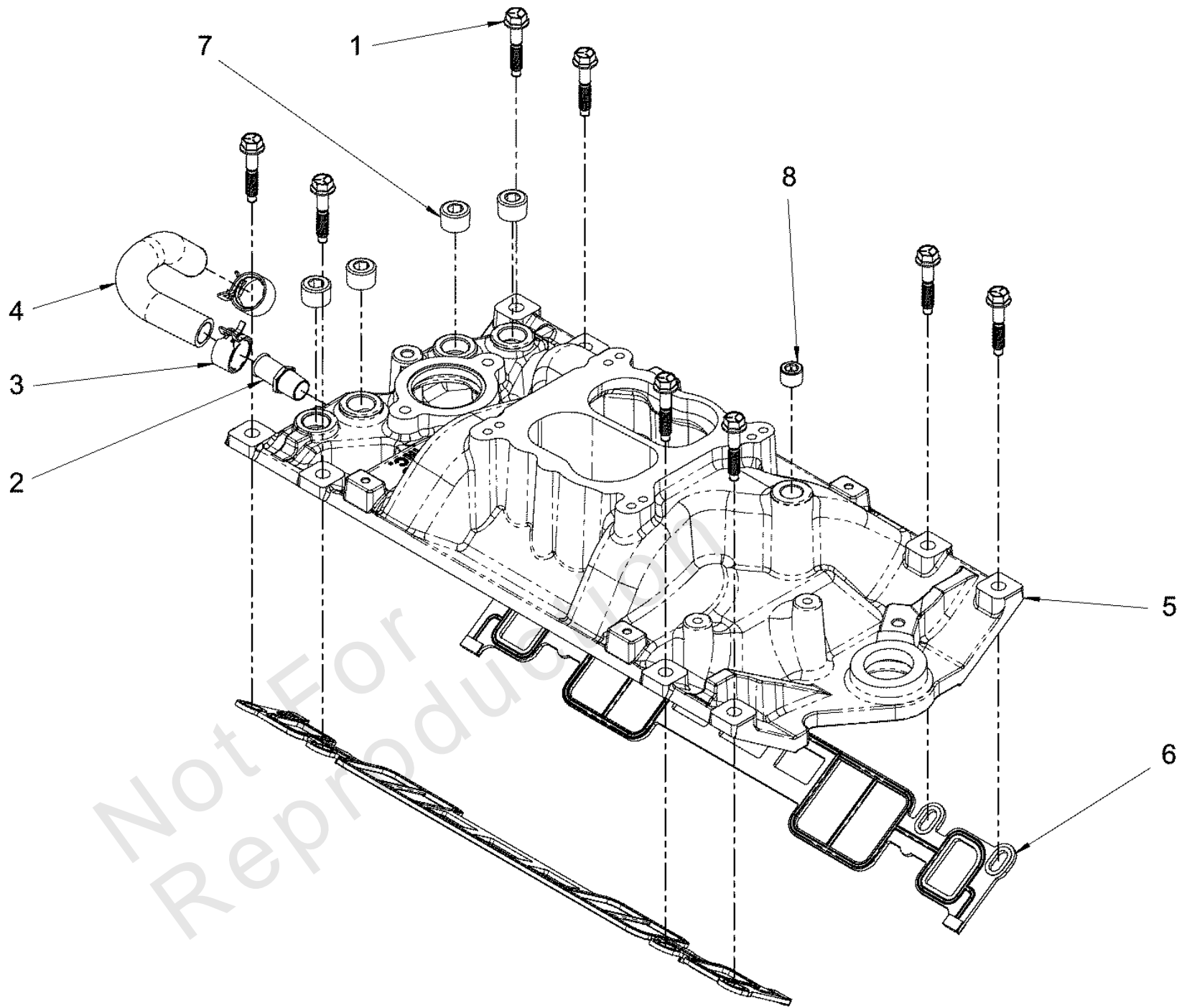
REF NO	PART NO	QTY	DESCRIPTION
1	708977		LOOM -(Not Illustrated)
2	708819		SPARK PLUG
3	-----		* 4 WIRE RETAINER -(*See footnote)
4	-----		* 2 WIRE RETAINER -(*See footnote)
5	-----		* RETAINER -(*See footnote) (Not Illustrated)
6	-----		* RETAINER -(*See footnote) (Not Illustrated)
7	-----		* RETAINER -(Not Illustrated)
8	708996		SPARK PLUG WIRE
9	-----		* BOLT -(*See footnote)

Not For Reproduction

# Engine Group - Intake Manifold

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00





## Engine Group - Intake Manifold

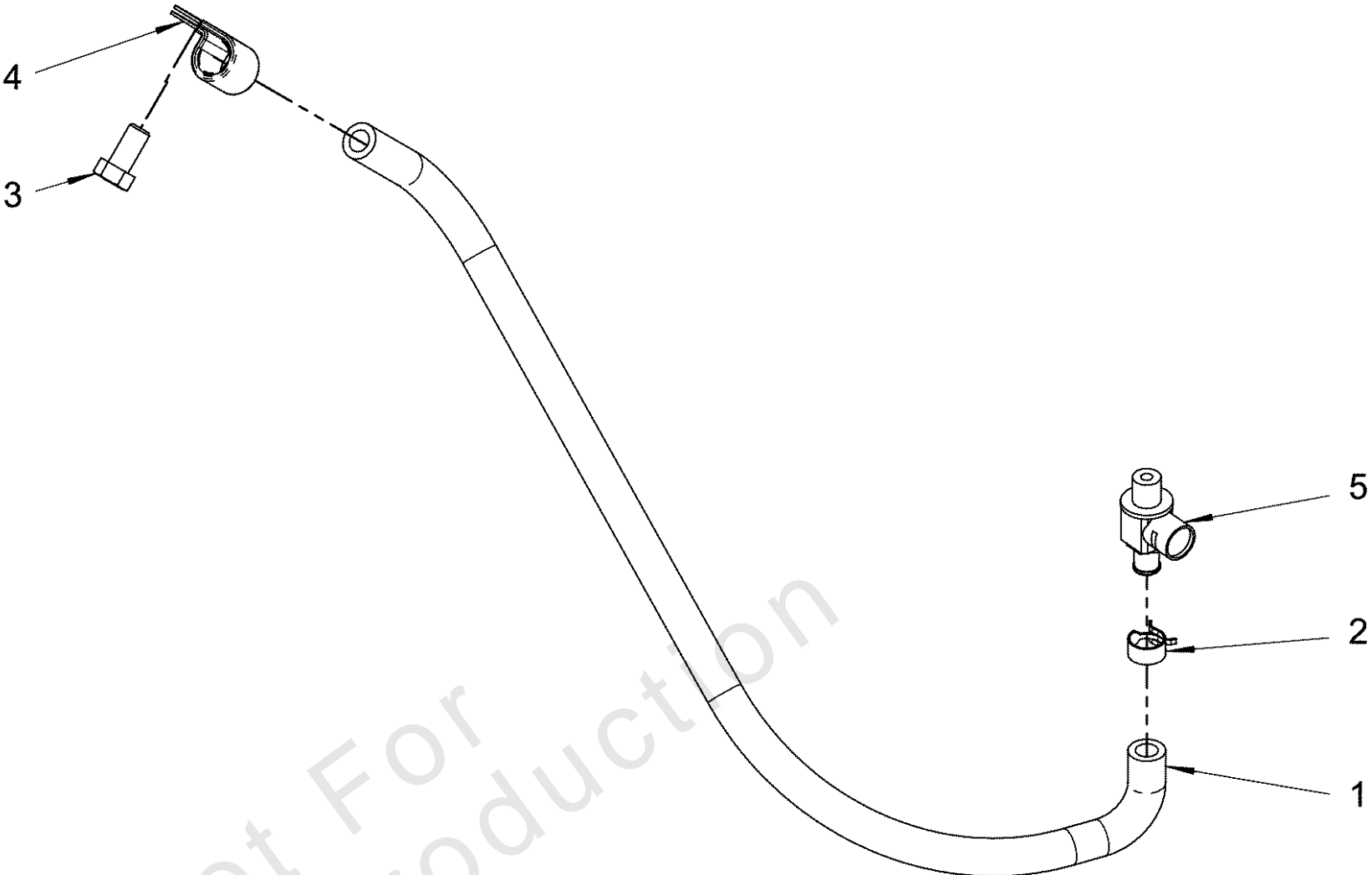
REF NO	PART NO	QTY	DESCRIPTION
1	-----		* BOLT -(*See footnote)
2	-----		* FITTING -(*See footnote)
3	708983		CLAMP
4	708985		HOSE
5	-----		* INTAKE MANIFOLD -(*See footnote)
6	709455		GASKET
7	-----		* PLUG -(*See footnote)
8	-----		* PLUG -(*See footnote)

Not For Reproduction

**Engine Group - Oil Drain**

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00



## Engine Group - Oil Drain

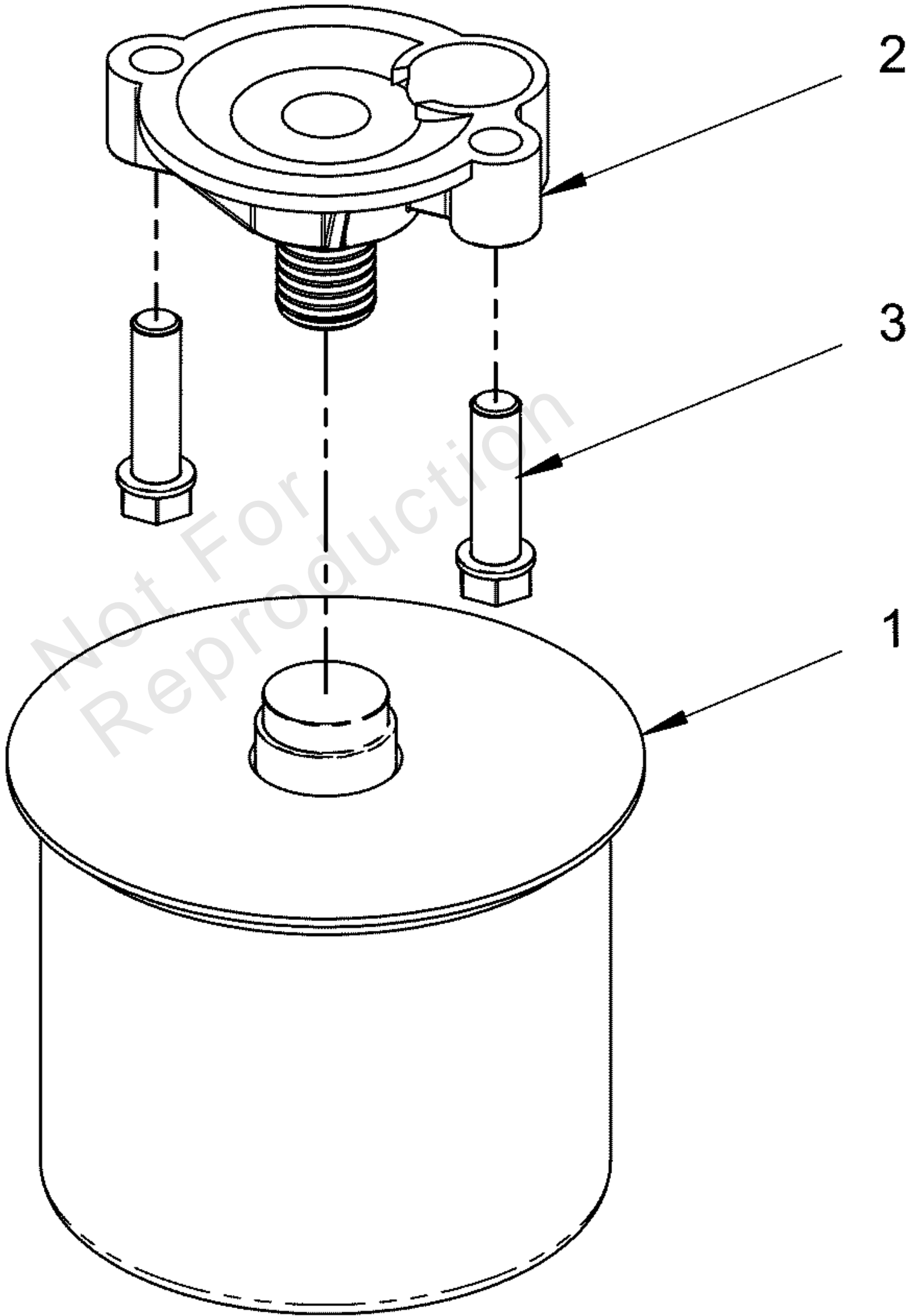
REF NO	PART NO	QTY	DESCRIPTION
1	708980		HOSE, FUEL, 22"
2	708982		CLAMP
3	-----		* BOLT -(*See footnote)
4	-----		* CLAMP -(*See footnote)
5	708994		VALVE

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**Engine Group - Oil Filter**

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00



## Engine Group - Oil Filter

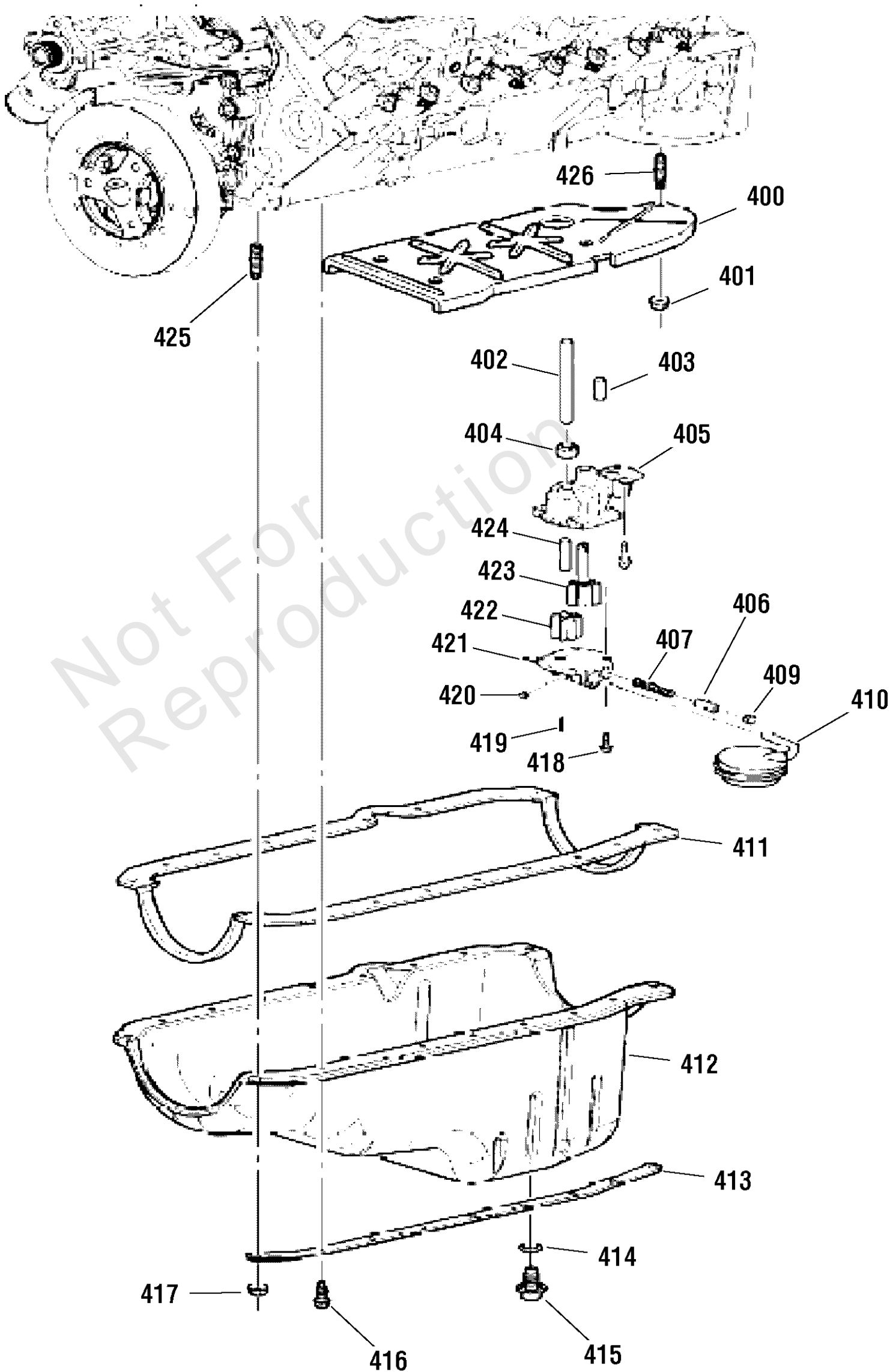
REF NO	PART NO	QTY	DESCRIPTION
1	708969		FILTER
2	-----		* ADAPTER -(*See footnote)
3	-----		* BOLT -(*See footnote)

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# Engine Group - Oil Pan

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00



## Engine Group - Oil Pan

REF NO	PART NO	QTY	DESCRIPTION
400	-----		* DEFLECTOR -(*See footnote)
401	-----		* NUT -(*See footnote)
402	-----		* SHAFT -(*See footnote)
403	-----		* PIN -(*See footnote)
404	-----		* RETAINER -(*See footnote)
405	709459		PUMP
406	-----		* BOLT -(*See footnote)
407	-----		* SPRING -(*See footnote)
409	-----		* PLUG -(*See footnote)
410	708966		SCREEN
411	708965		GASKET
412	-----		* OIL PAN -(*See footnote)
413	-----		* REINFORCEMENT -(*See footnote)
414	770703		SEAL
415	770704		PLUG
416	-----		* BOLT -(*See footnote)
417	-----		* NUT -(*See footnote)
418	-----		* BOLT -(*See footnote)
419	-----		* PIN -(*See footnote)
420	-----		* PLUG -(*See footnote)
421	-----		* COVER -(*See footnote)
422	-----		* GEAR -(*See footnote)
423	-----		* GEAR -(*See footnote)
424	-----		* SHAFT -(*See footnote)
425	-----		* STUD -(*See footnote)
426	-----		* STUD -(*See footnote)

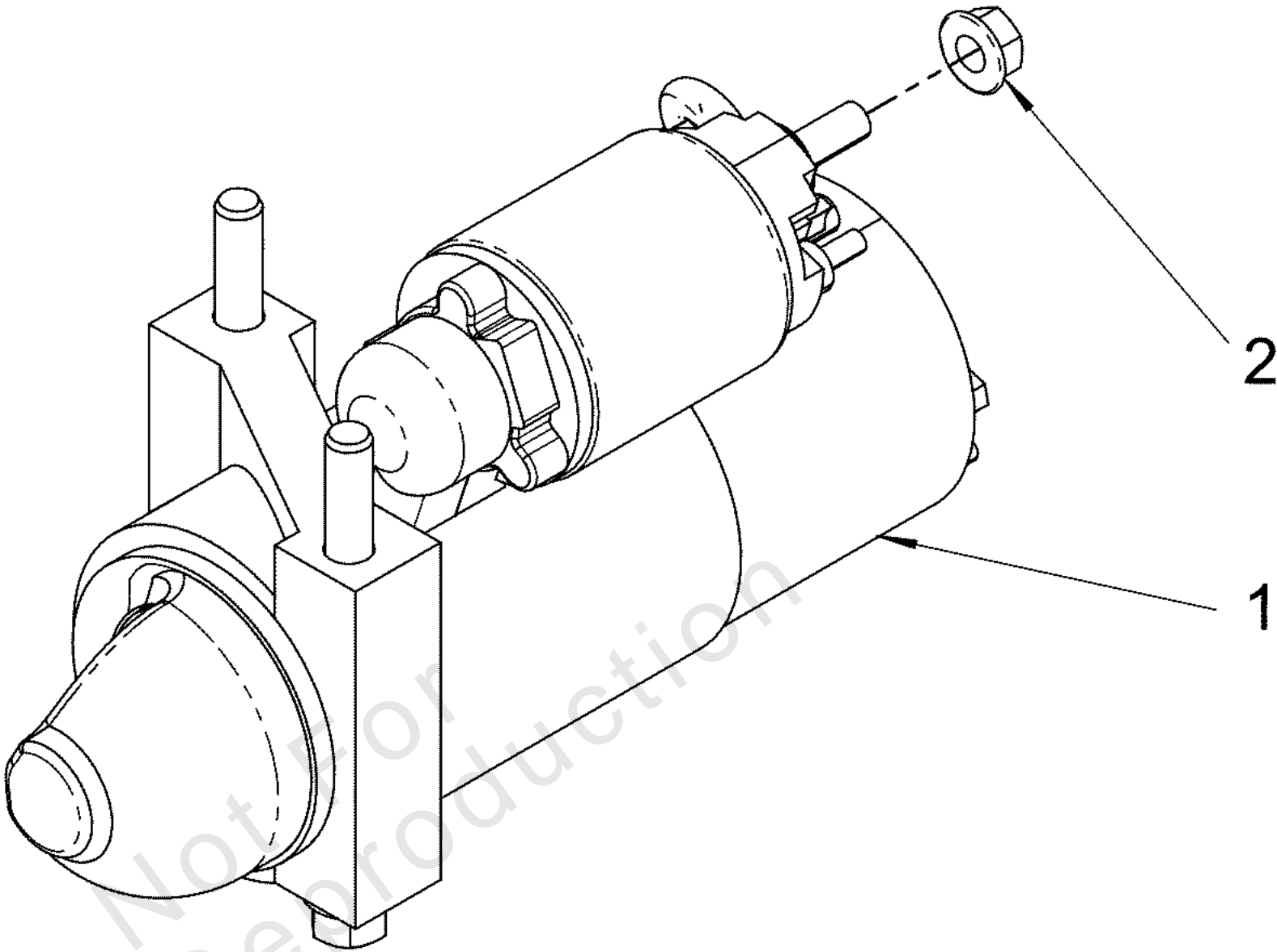
### Footnotes:

Note:\* Speak to your authorized Briggs & Stratton dealer. For dealers, speak to Briggs & Stratton Technical Support.

**Engine Group - Starter**

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00





## Engine Group - Starter

REF NO	PART NO	QTY	DESCRIPTION
1	708847		STARTER
2	-----		* NUT -(*See footnote)

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Reproduction

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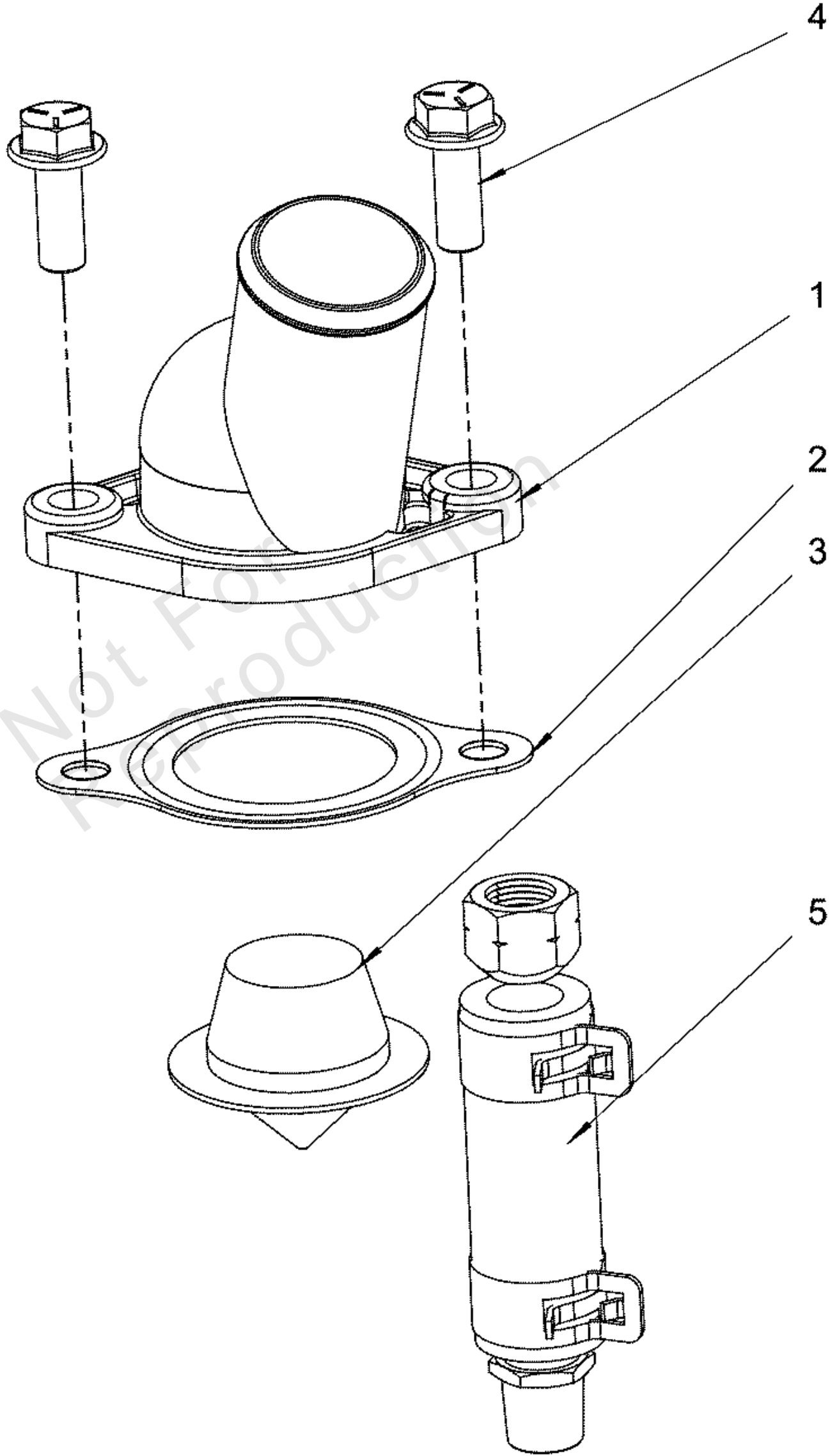
**Footnotes:**

\* Items without part numbers are common fasteners. Purchase locally.

**Engine Group - Thermostat**

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00



## Engine Group - Thermostat

REF NO	PART NO	QTY	DESCRIPTION
1	708970		COVER, WATER OUTLET
2	708836		GASKET, TSTAT CVR
3	708835		THERMOSTAT
4	-----		* BOLT -(*See footnote)
5	709457		CAP

Not For  
Reproduction

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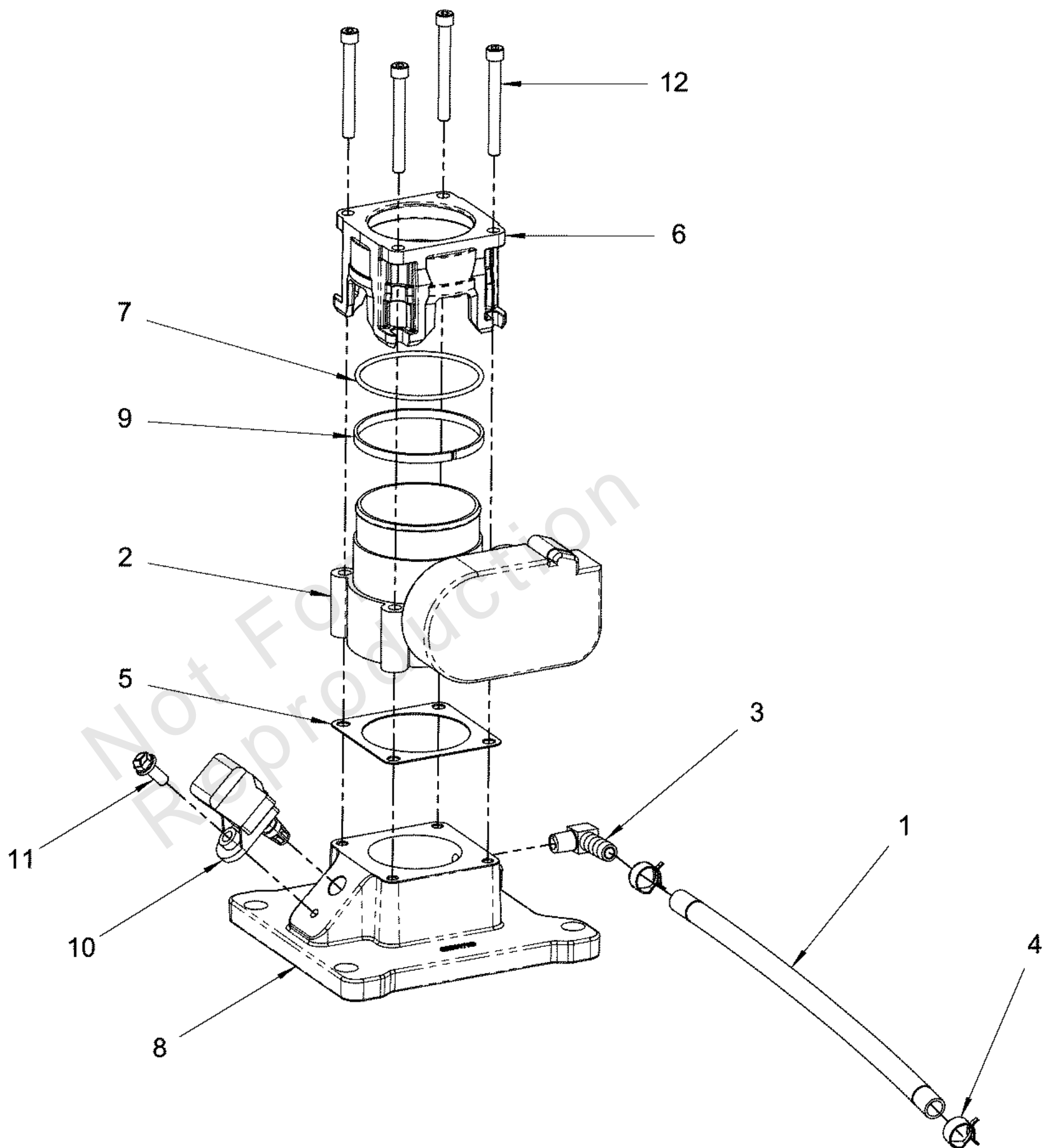
**Footnotes:**

\* Items without part numbers are common fasteners. Purchase locally.

# Engine Group - Throttle Mixer

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00



## Engine Group - Throttle Mixer

REF NO	PART NO	QTY	DESCRIPTION
1	708980		HOSE, FUEL, 22"
2	708981		THROTTLE BODY
3	-----		** FITTING -(**See footnote)
4	-----		** CLAMP -(**See footnote)
5	708984		GASKET
6	708987		ADAPTER
7	708990		O-RING
8	-----		** ADAPTER -(**See footnote)
9	708992		SPACER
10	708863		MAP SENSOR
11	-----		* BOLT -(**See footnote)
12	-----		* BOLT -(**See footnote)

Not For  
Reproduction

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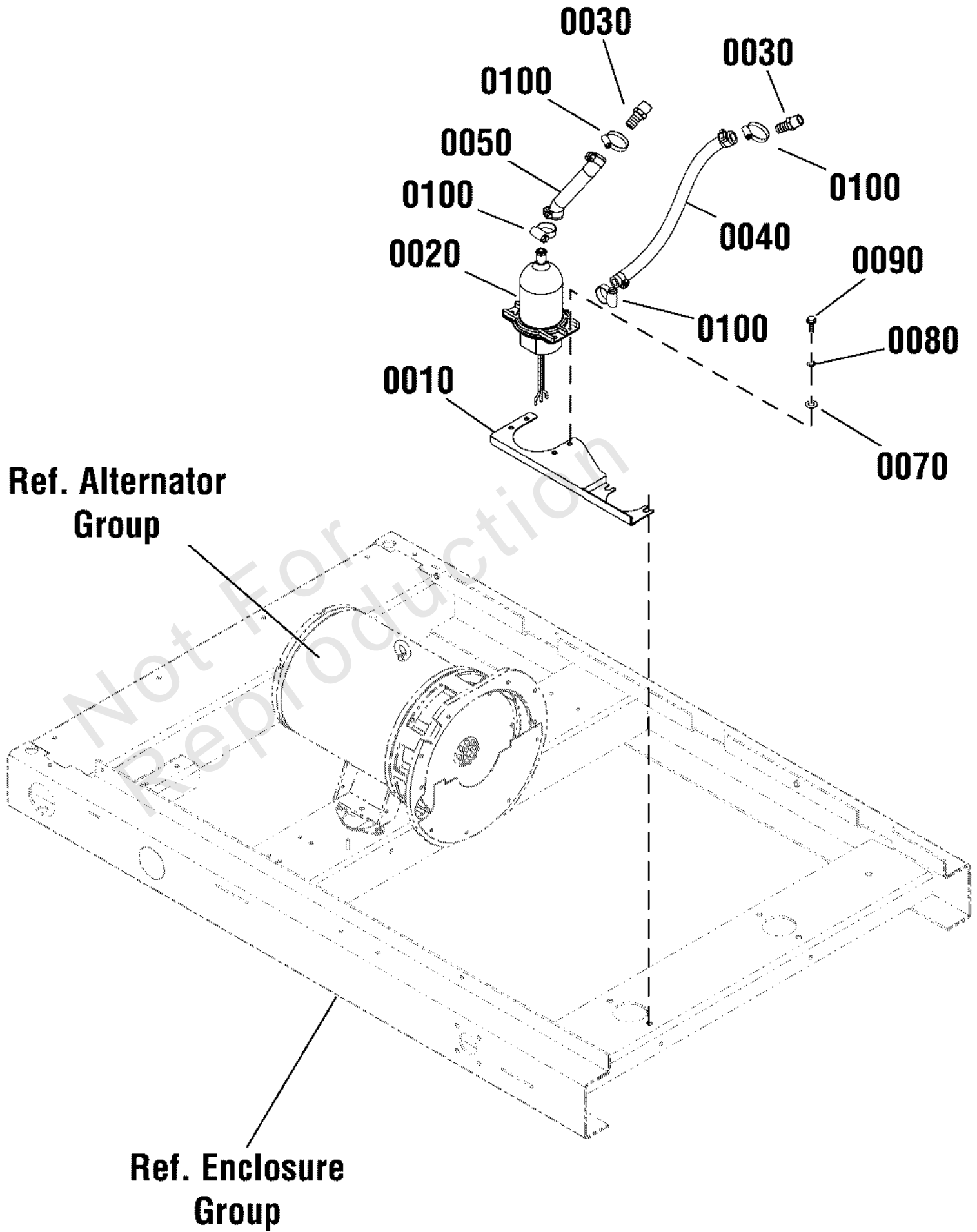
**Footnotes:**

\* Items without part numbers are common fasteners. Purchase locally.

# Heater Group

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 076860-00



## Heater Group

REF NO	PART NO	QTY	DESCRIPTION
0010	-----		BRACKET
0020	206119GS		HEATER, 240V
0030	-----		BARB
0040	-----		HOSE-HEATER
0050	-----		HOSE-HEATER
0070	-----		* WASHER, Flat, 1/4
0080	-----		* WASHER, Lock , 1/4
0090	-----		* CAPSCREW, Hex Head, 1/4-20 x 3/4

Not For  
Reproduction

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**Footnotes:**

\* Items without part numbers are common fasteners. Purchase locally.

# Hardware Identification & Torque Specifications

Torque Specification Chart								
FOR STANDARD METRIC MACHINE HARDWARE (Tolerance ± 20%)								
Property Class	5.6		8.8		10.9		12.9	
	Class 5.6		Class 8.8		Class 10.9		Class 12.9	
Size Of Hardware	in/lbs	Nm.	in/lbs	Nm.	in/lbs	Nm.	in/lbs	Nm.
	ft/lbs		ft/lbs		ft/lbs		ft/lbs	
M3	5.88	.56	13.44	1.28	19.2	1.80	22.92	2.15
M4	13.44	1.28	30.72	2.90	43.44	4.10	52.56	4.95
M5	26.4	2.50	60.96	5.75	5.97	8.10	7.15	9.7
M6	44.64	4.3	7.3	9.9	10.3	14	12.1	16.5
M7	5.2	7.1	12.1	16.5	16.9	23	19.9	27
M8	7.7	10.5	17.7	24	25	34	29	40
M10	15	21	35	48	50	67	59	81
M12	26	36	61	83	86.2	117	103	140
M14	42	58	101	132	136	185	162	220
M16	64	88	147	200	210	285	250	340
M18	89	121	202	275	287	390	346	470
M20	126	171	290	390	405	550	486	660
M22	169	230	390	530	559	745	656	890
M24	217	295	497	375	708	960	840	1140
M27	320	435	733	995	1032	1400	1239	1680
M30	435	590	995	1350	1401	1900	1681	2280
M33	590	800	1349	1830	1902	2580	2278	3090
M36	759	1030	1740	2360	2441	3310	2935	3980
M39	988	1340	2249	3050	3163	4290	3798	5150

Torque Specification Chart						
FOR STANDARD MACHINE HARDWARE (Tolerance ± 20%)						
Hardware Grade	No Marks		SAE Grade 5		SAE Grade 8	
	SAE Grade 2		SAE Grade 5		SAE Grade 8	
Size Of Hardware	in/lbs	Nm.	in/lbs	Nm.	in/lbs	Nm.
	ft/lbs		ft/lbs		ft/lbs	
8-32	19	2.1	30	3.4	41	4.6
8-36	20	2.3	31	3.5	43	4.9
10-24	27	3.1	43	4.9	60	6.8
10-32	31	3.5	49	5.5	68	7.7
1/4-20	66	7.6	8	10.9	12	16.3
1/4-28	76	8.6	10	13.6	14	19.0
5/16-18	11	15.0	17	23.1	25	34.0
5/16-24	12	16.3	19	25.8	29	34.0
3/8-16	20	27.2	30	40.8	45	61.2
3/8-24	23	31.3	35	47.6	50	68.0
7/16-14	30	40.8	50	68.0	70	95.2
7/16-20	35	47.6	55	74.8	80	108.8
1/2-13	50	68.0	75	102.0	110	149.6
1/2-20	55	74.8	90	122.4	120	163.2
9/16-12	65	88.4	110	149.6	150	204.0
9/16-18	75	102.0	120	163.2	170	231.2
5/8-11	90	122.4	150	204.0	220	299.2
5/8-18	100	136	180	244.8	240	326.4
3/4-10	160	217.6	260	353.6	386	525.0
3/4-16	180	244.8	300	408.0	420	571.2
7/8-9	140	190.4	400	544.0	600	816.0
7/8-14	155	210.8	440	598.4	660	897.6
1-8	220	299.2	580	788.8	900	1,244.0
1-12	240	326.4	640	870.4	1,000	1,360.0

The guides and ruler furnished below are designed to help you select the appropriate hardware.



Nut, M8

Thread Diameter (mm)

Inside Diameter (in)      Threads per inch

Nut, 1/2-16



Screw, M8- 1.25 x 25

Thread Diameter (mm)      Distance between threads (mm)      Body Length (mm)

Body Diameter      Threads per inch      Body Length (in)

Screw, 1/2- 16 x 2



## Standard Hardware Sizing

When a washer or nut is identified as 1/2" (M8), this is the *Nominal size*, meaning the *inside diameter* is 1/2 inch (8mm metric thread diameter); if a second number is present it represents the *threads per inch* (distance between threads).

When bolt or capscrew is identified as 1/2 - 16 x 2" (M8 - 1.25 x 50), this means the *Nominal size*, or body diameter is 1/2 inch (8mm metric thread diameter), the second number, 16, represents the *threads per inch*, (*distance between threads*). The final number is the body length of the bolt or screw, 2 inches (50mm).

## NOTES

- These torque values are to be used for all hardware excluding: locknuts, self-tapping screws, thread forming screws, sheet metal screws and socket head setscrews.
- Recommended seating torque values for locknuts:
  - for prevailing torque locknuts - use 65% of grade 5 torques.
  - for flange whizlock nuts and screws - use 135% of grade 5 torques.
- Unless otherwise noted on assembly drawings, all torque values must meet this specification.

## Common Hardware Types

Hex Head Capscrew



Washer



Carriage Bolt



Hex Nut

## Wrench & Fastener Size Guide

1/4" Bolt or Nut Wrench—7/16"	5/16" Bolt or Nut Wrench—1/2"	3/8" Bolt or Nut Wrench—9/16"	7/16" Bolt or Nut Wrench (Bolt)—5/8" Wrench (Nut)—11/16"	1/2" Bolt or Nut Wrench—3/4"
M6 Bolt or Nut Wrench—10mm	M8 Bolt or Nut Wrench—13mm	M10 Bolt or Nut Wrench—17mm	M12 Bolt or Nut Wrench—19mm	M14 Bolt or Nut Wrench—22mm



