

Alliance All-Makes Blue Stripe™ Hoses

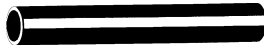
GENERAL PRODUCT INFORMATION



- Blue Stripe™ molded coolant hose is factory molded to fit specific applications and to meet OEM specifications.



- Blue Stripe™ heater hose can be used for coolant, water and air applications.



- Blue Stripe™ straight coolant hose is a stick hose designed for demanding heavy-duty coolant/air applications.

FEATURES & BENEFITS

Blue Stripe™ Molded Coolant Hose

- Factory molded to fit specific applications and meets OEM specifications.
- Recommended for upper, lower, by-pass, heater and other coolant applications.
- Smooth heat-resistant cover.
- Compounded to resist electrochemical degradation – the leading cause of hose failure.
- Installs without buckling, bending out of shape, or straining at connections.
- 3/8" through 3" inside diameters
- Meets SAE 20R4 Type EC Class D-1 requirements.
- Temperature rating: -40°F. to +302°F.

Blue Stripe™ Heater Hose

- Has all the features of Blue Stripe™ molded coolant hose.
- Compounded to resist electrochemical degradation.
- 3/8" through 1" inside diameters
- Similar to or meets SAE J20R3 Type EC Class D-2 requirements.
- Temperature rating: -40°F. to +302°F.

Blue Stripe™ Straight Coolant Hose

- Two-ply bias fabric construction maximizes flexibility and strength.
- Electrochemical resistant EPDM tube resists "cold water leaks" and remains soft and pliable, even under adverse operating conditions.
- 1-1/4" through 3" inside diameters
- Exceeds SAE J20R1 Type EC Class D-1 requirements.
- Temperature rating: -40°F. to +302°F.

TOP SELLERS

Part Numbers

GT/4175SC250	GT/4175SC200	GT/4230SB5/8
GT/4175SC300	GT/4175SC175	GT/4230SB1
GT/4175SC225	GT/4230SB3/4	GT/4230SB3/8

PRODUCT AVAILABILITY

To locate your nearest dealer, please visit www.daimler-trucksnorthamerica.com.

WARRANTY

Alliance Parts are backed by a one-year unlimited mile warranty, with coverage available throughout North America.

ADDITIONAL INFORMATION

To learn more about Alliance parts, please visit www.alliancebrandparts.com.

FREQUENTLY ASKED QUESTIONS

“Silicone is a million mile hose.”

“Blue Stripe™ has been tested on fleets over 18 million miles with no hose failures.”

“Silicone is proven.”

“Blue Stripe™ is also proven. It supports extended new vehicle warranties.”

“Does Blue Stripe™ cost more than silicone?”

“The cost of Blue Stripe™ hoses can be up to 50% less than silicone.”

“Can I replace any hose brand with Blue Stripe™?”

“Yes, Blue Stripe™ hoses cross over from any hose material.”

WHEN YOU NEED MORE INFORMATION . . .

The literature listed below is available from your local dealer.

Catalog Number	Description
FLC/ALL-C-016	Alliance All Makes Belts and Hoses Catalog
FLC/PSM-F-333	Guide to Heavy Duty Belt Tensioner Failure, 11" x 17" Poster
FLC/PSM-F-330	Blue Stripe Coolant Hose, 8" x 10" Poster
FLC/PSM-F-331	Alliance Belt Products for School & Transit Buses, 11" x 17" Poster
FLC/PSM-F-329	Alliance All-Makes Belts “Drive-Flex” Micro-V Belts, 8" x 10" Poster

HOSE TROUBLESHOOTING GUIDE *

Physical Appearance	Cause of Failure	Corrective Action
Hardened, cracked hose cover	Excessive temperature.	Shield or route away from external heat sources. Improve air circulation. Replace with more heat resistant hose.
Cracks in cover without hardening	Electro Chemical Degradation.	Replace with Blue Stripe™ Coolant Hoses.
Swelling at end(s) without softening of hose	Electro Chemical Degradation.	Replace with Blue Stripe™ Coolant Hoses.
Swelling with softening (“tender” or “goeey”) hose	Excessive oil externally or in coolant system.	External – eliminate source of oil. Internal – replace coolant using the recommended types and quantity of additives. If vehicle has automatic transmission, check for leakage of oil from oil cooler into engine cooling system. If cannot correct, replace with oil resistant hose.
Scuffed, gouged or abraded cover	Interference with engine or cooling component.	Reroute, support or shield. Avoid high heat sources.
Failure at clamp	(1) Cover cracks – caused by clamp over-tightening.	Replace hose and properly reclamp.
	(2) Tube cut radially due to improperly positioned clamp (over bead on fitting).	Replace hose and properly reclamp.
Leakage at (clamp) fitting	Improper clamp torque.	Retighten clamp. (Note: Clamps should be inspected and retightened periodically.)
Distorted clamp	Overtightening, misalignment or defective clamp.	Replace clamp.
Burst hose	Electro Chemical Degradation	Replace with Blue Stripe™ Coolant Hoses.
Collapsed hose	Misapplied hose.	Use hose of proper configuration and/or with internal spring.
Bulge or bubble between cover and tube	Defective hose.	Replace hose.
	Excessive oil externally or within coolant system.	External – eliminate source of oil. Internal – replace coolant using recommended types and quantity of additives. If vehicle has automatic transmission, check for leakage of oil from oil cooler into engine cooling system. If cannot correct, replace with oil resistant hose.

*Source: Gates Corporation

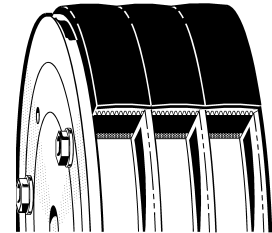
Alliance All-Makes **NEW!** Extended Life V-Belts



Alliance Extended Life V-Belts have been developed from a breakthrough in v-belt materials and manufacturing to give industry-leading performance and life.

GENERAL PRODUCT INFORMATION

- Extended Life V-Belts and PowerBand® belts are manufactured with new rubber compounds that increase life and heat resistance on heavy truck applications.
- PowerBands® are made up of two or more strands of V-belts banded together at the top with a tieband. The strands and the tie band are vulcanized together to form one homogenous belt. Because of design, pulley dimensions are critical to the application. The tie band clears the top of the sheave so that each strand has full wedging in the groove.



BELT REPLACEMENT TIPS

When replacing belts, there are a few key points to keep in mind to assure long service life:

- **Pulley Alignment and Inspection**

Before removing the old belt, check the alignment of the pulleys. If the driveshafts are not parallel or if the pulleys are misaligned, the drive could be wearing out the belt before its time. If there is misalignment, you will have to adjust or replace the bent or broken pulleys, pulley brackets or shaft.

When removing the belt do not use any hand tools to pry the belt off the pulleys. Be sure to loosen the belt enough to remove with your hands.

Once the old belt is removed, inspect the pulleys for worn grooves, foreign particles, rust or oil and grease in the grooves. If the pulleys cannot be cleaned or repaired, they should be replaced.

- **The New Alliance Belt**

Ensure that the new belt you are putting on the drive is the correct size. The Alliance All Makes Belts and Hoses catalog contains complete crossover information to identify the proper Alliance number for the vast majority of competitive manufacturers' numbers. Be sure the new belt has the proper top-width and outside circumference dimensions.

Matched belts must be replaced in sets. A new belt added to a set of old belts will not ride in the pulleys the same way the old ones do. As a result, the load of the drive will not be distributed evenly among all the belts. If one belt in a matched set fails, all the belts must be removed.

- **Tensioning**

Proper tensioning of the belt is the most important step you can take to extend your belt's service life because it controls the problem of slipping – the leading cause of premature belt failure.

When tensioning a newly installed belt, remember to set the proper tension initially and then allow the motor to run 15-20 minutes to "seat" the belt into the pulleys. The belt tension should then be readjusted to the proper manufacturer's specifications.

Ideally, and whenever possible, check belt tension with a tension gauge. When a tension gauge is not available, the next best guide is to maintain the lowest tension at which the belt will not slip. If it slips (squeals), tighten it. Following this guideline leads to lower bearing loads, less heat, and longer belt life.

TOP SELLERS

PART NUMBERS

GT/17512E	GT/2PB51E
GT/17532E	GT/2PB50E
GT/17452E	GT/2PB435E
GT/17502E	GT/2PB545E
GT/17436E	GT/2PB28422E

PRODUCT AVAILABILITY

To locate your nearest dealer, please visit www.daimler-trucksnorthamerica.com.

WARRANTY

Alliance Parts are backed by a one-year unlimited mile warranty, with coverage available throughout North America.

FEATURES & BENEFITS

- New EPDM Rubber compound for very long life
- Polyester Tensile Cord for length stability and tension control
- Molded Notch construction for improved flexibility
- Meets and Exceeds SAEJ1459 specifications
- Designed for Heavy Truck applications
- Powerbands offer improved load distribution on two belt drives
- Powerbands tolerate misalignment

WHEN YOU NEED MORE INFORMATION ...

The literature listed below is available from your local dealer.

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ALL016	Alliance All Makes Belts and Hoses Catalog
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FLC/PSM-F-332	Heavy Duty Tensioner Interchange, 11" x 17" Poster

ADDITIONAL INFORMATION

To learn more about Alliance parts, please visit:
www.alliancebrandparts.com.

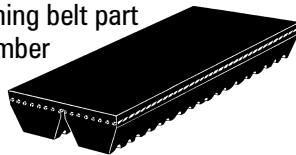
FREQUENTLY ASKED QUESTIONS

"PowerBand® belts cost too much!"

"On many applications that cause single belt turnover, PowerBand® belts last 2-3 times longer. It's important to consider the cost of performing unscheduled maintenance."

COMPETITIVE CROSS REFERENCE INFORMATION

You can't rely on matching belt part number to belt part number between manufacturers, so always check the physical dimensions to guarantee a like-fit.

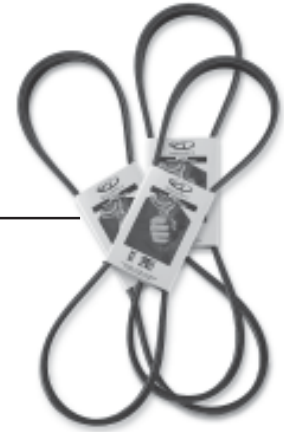


While each Alliance belt may not be identical in dimensions to a belt listed on the crossover list in the Alliance All Makes Belts and Hoses Catalog, the Alliance number should be suitable for many applications of the competitive belt.

Also, keep in mind that due to pulley ride heights and available length adjustments inherent in certain applications, some belts will provide good performance across several applications.

ALLIANCE		GATES	
Part Number	Outside Circumference	Part Number	Outside Circumference
GT/2PB51E	51 3/8"	2/9510PB	51 1/2"
GT/2PB50E	50 1/2"	2/9500PB	50 1/2"
GT/2PB435E	44 1/8"	2/9435PB	44"
GT/2PB545E	55 1/8"	2/9545PB	55"
GT/2PB555E	56 1/8"	2/9555PB	56"
GT/2PB28433E	43 1/2"	2/28429PB	43 1/2"
GT/2PB28476E	47 7/8"	2/28473PB	47 7/8"
GT/2PB28496E	49 7/8"	2/28492PB	49 7/8"
GT/2PB28422E	45"	N/A	N/A

Alliance All Makes MICRO-V® Belts



Micro-V® Belts are engineered with long wearing fiber loaded stock. Excellent load-carrying capacity handles the most demanding serpentine and heavy-service drives.

BELT REPLACEMENT TIPS

Belts don't last forever. If your customer's truck has gone 100,000 miles between minor overhauls, save him some trouble and recommend that he replace the belts. If a belt exhibits any of the following telltale signs, regardless of its accumulated mileage, it is a candidate for replacement:

1. **Glazed or Shiny Sidewalls** – Friction created by a loose belt slipping in the pulley causes the belt sidewalls to become slick and shiny. These glazed sidewalls lose their gripping strength and the belt slips even more. Grease and oil on the pulley can also cause this condition.
2. **Cracks** – Deep bottom cracks that appear at regular intervals are caused by the belt turning around a too-small pulley (usually the alternator) – the undercord is being stressed to the breaking point. Smaller, irregular cracks, however, usually just indicate a belt that has weathered a long life.
3. **Missing Chunks or Brittle, Separating Layers** – Oil and grease are a rubber compound's worst enemies. Oils weaken the compound's bonds making the belt soft, spongy and considerably weaker. Eventually, such a belt will slip. These oils can come from belt dressings (which should **never** be used) or from leaking engine parts.
4. **Jagged or Streaked Sidewalls** – Pitted or streaked sidewalls are the result of a foreign object in the pulley (such as sand or gravel) or a rough pulley wall surface. Foreign objects can get into a pulley from an oily, sticky belt. Regular cleaning of drive components helps prevent this problem.
5. **Tensile Break** – A large foreign object in the pulley can cut perpendicularly into the belt and break the tensile cords. Tensile break can also occur when a belt is forced or pried on during installation, but not noticed until the belt actually breaks apart.
6. **Uneven Ribs (Micro-V® belts only)** – Pulleys must be clean at all times on a Micro-V® drive. Foreign objects in the pulley can erode the undercord ribs and the belt can lose its pulling power.

Source: Gates Rubber Co., V-Belts, Micro-V's and Timing Belts, Autodatabank Training Series, 10/85

TOP SELLERS

PART NUMBERS

GT/4060436	GT/4080585DF	GT/4080740
GT/4040430	GT/4060523	GT/4080562DF
GT/4050340	GT/4080570DF	GT/4080701DF
GT/4040425	GT/4080680	GT/4080730DF
GT/4080605	GT/4080750	GT/4080695DF

PRODUCT AVAILABILITY

To locate your nearest dealer, please visit
www.freightliner.com.

WARRANTY

Alliance Parts are backed by a one-year unlimited mile warranty, with coverage available throughout North America.

FEATURES & BENEFITS

- OE-spec construction; not a will-fit.
- Precision Ground Profile
- Special Formation Process
- Reinforced with thermally active polyester tensile members.
- Meets or exceeds SAEJ1459 specs.
- Eliminates noise, vibration and wear.
- Optimum belt to pulley fit.
- Gives precise dimensional control.
- Eliminates stretch in high-performance applications.
- Long life on truck applications.

WHEN YOU NEED MORE INFORMATION...

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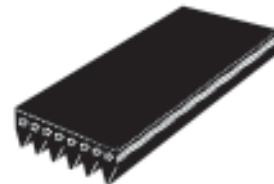
COMPETITIVE CROSS REFERENCE

The last three digits of **Micro-V**[®] belt part numbers indicate the effective length in inches to the nearest tenth; add 5/8" (.625) to arrive at the total outside circumference for that particular belt.

EXAMPLE:

GT/4060436

$$43.6" + 5/8" = 44.2" \text{ Total Outside Circumference}$$



Outside Circumference	ALLIANCE Part Number	GATES Part Number	DAYCO Part Number	GOODYEAR Part Number
44.2"	GT/4060436	K060436	5060436	4060436
43.6"	GT/4040430	K040430	5040430	4040430
34.6"	GT/4050340	K050340	5050340	4050340
43.1"	GT/4040425	K040425	5040425	4040425
61.0"	GT/4080605	K080605	5080605	4080605
59.0"	GT/4080585DF	K080585	5080585	4080585
52.8"	GT/4060523	K080525	5080525	4080525
68.6"	GT/4080680	K080680	5080680	4080680
75.6"	GT/4080750	K080750	5080750	4080750
74.6"	GT/4080740	K080740	5080740	4080740

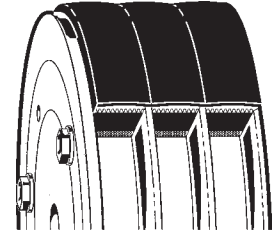
Alliance All Makes PowerBand® Belts



PowerBand® Belts are a problem-solving, higher mileage alternative for many single, matched belt applications that fail due to belt turnover.

GENERAL PRODUCT INFORMATION

- Heavy-Duty PowerBand® belts are designed to increase stability and life in many heavy-duty truck belt applications.
- PowerBands® are made up of two or more strands of V-belts banded together at the top with a tieband. The strands and the tie band are vulcanized together to form one homogenous belt. Because of design, pulley dimensions are critical to the application. The tie band clears the top of the sheave so that each strand has full wedging in the groove.



BELT REPLACEMENT TIPS

When replacing belts, there are a few key points to keep in mind to assure long service life:

- **Pulley Alignment and Inspection**

Before removing the old belt, check the alignment of the pulleys. If the driveshafts are not parallel or if the pulleys are misaligned, the drive could be wearing out the belt before its time. If there is misalignment, you will have to adjust or replace the bent or broken pulleys, pulley brackets or shaft.

When removing the belt do not use any hand tools to pry the belt off the pulleys. Be sure to loosen the belt enough to remove with your hands.

Once the old belt is removed, inspect the pulleys for worn grooves, foreign particles, rust or oil and grease in the grooves. If the pulleys cannot be cleaned or repaired, they should be replaced.

- **The New Alliance Belt**

Ensure that the new belt you are putting on the drive is the correct size. The Alliance All Makes Belts and Hoses catalog contains complete crossover information to identify the proper Alliance number for the vast majority of competitive manufacturers' numbers. Be sure the new belt has the proper top-width and outside circumference dimensions.

Matched belts must be replaced in sets. A new belt added to a set of old belts will not ride in the pulleys the same way the old ones do. As a result, the load of the drive will not be distributed evenly among all the belts. If one belt in a matched set fails, all the belts must be removed.

- **Tensioning**

Proper tensioning of the belt is the most important step you can take to extend your belt's service life because it controls the problem of slipping – the leading cause of premature belt failure.

When tensioning a newly installed belt, remember to set the proper tension initially and then allow the motor to run 15-20 minutes to "seat" the belt into the pulleys. The belt tension should then be readjusted to the proper manufacturer's specifications.

Ideally, and whenever possible, check belt tension with a tension gauge. When a tension gauge is not available, the next best guide is to maintain the lowest tension at which the belt will not slip. If it slips (squeals), tighten it. Following this guideline leads to lower bearing loads, less heat, and longer belt life.

TOP SELLERS

PART NUMBERS

GT/2PB51	GT/2PB545	GT/2PB28422
GT/2PB50	GT/2PB555	GT/2PB28471
GT/2PB435	GT/2PB28433	GT/2PB28460

PRODUCT AVAILABILITY

To locate your nearest dealer, please visit www.freightliner.com.

WARRANTY

Alliance Parts are backed by a one-year unlimited mile warranty, with coverage available throughout North America.

FEATURES & BENEFITS

- OE-spec construction; not a will-fit.
- Unique "Joined" Construction
- Even Load Distribution
- Thermally Active Polyester Tensile
- Molded Notches
- Meets or exceeds SAEJ1459 specifications.
- Designed for truck applications.
- Will not turn over or slip off pulleys.
- Will tolerate excess misalignment found in many drives.
- Eliminates stretch in high-performance applications.
- Reduces bending stress on small pulleys.
- Long Life on Truck Applications

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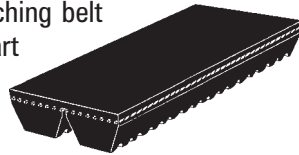
FREQUENTLY ASKED QUESTIONS

"PowerBand® belts cost too much!"

"On many applications that cause single belt turnover, PowerBand® belts last 2-3 times longer. It's important to consider the cost of performing unscheduled maintenance."

COMPETITIVE CROSS REFERENCE INFORMATION

You can't rely on matching belt part number to belt part number between manufacturers, so always check the physical dimensions to guarantee a like-fit.



While each Alliance belt may not be identical in dimensions to a belt listed on the crossover list in the Alliance All Makes Belts and Hoses Catalog, the Alliance number should be suitable for many applications of the competitive belt.

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GT/2PB28476	47 7/8"	2/28473PB	47 7/8"
GT/2PB28496	49 7/8"	2/28492PB	49 7/8"
GT/2PB28422	45"	N/A	

Alliance All Makes Powergrip™ Clamps

For the ultimate coolant hose connection system, use PowerGrip™ SB clamps and Blue Stripe™ coolant hose.

GENERAL PRODUCT INFORMATION

- PowerGrip™ SB maintenance-free clamps retain dynamic tension and never need retightening. They are made of heat sensitive thermoplastic with a memory to prevent over- or under-tightening and are easy to install with an ordinary heat gun.
- The PowerGrip™ clamp stops leaks even on out-of-round applications. Its wide sealing area entraps connector bead.
- PowerGrip™ clamps are available in 15 sizes to fit hose outside diameters 1/4" through 3-1/8" and can be used with silicone hose.
- Environmentally friendly, the PowerGrip™ eliminates antifreeze leaks and water contamination.



FREQUENTLY ASKED QUESTIONS

"My band clamps work fine, why should I switch?"

"They may work fine when the truck is hot, but do they leak when it gets cold? PowerGrip™ SB will provide a leak-free seal in any temperature extreme."

"Does the clamp wear out?"

"There are trucks in the field with 700,000 miles and no leaks."

TOP SELLERS

PART NUMBERS

GT/32919	GT/32954
GT/32960	GT/32960
GT/32929	GT/32967
GT/32934	GT/32973
GT/32941	GT/32986

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FLC/PSM-F-332	Heavy Duty Tensioner Interchange, 11"x17" Poster

WARRANTY

Alliance Parts are backed by a one-year unlimited mile warranty, with coverage available throughout North America.

PRODUCT AVAILABILITY

To locate your nearest dealer, please visit www.freightliner.com.

FEATURES & BENEFITS

- | | |
|---|---|
| <ul style="list-style-type: none"> Unique Heat-Sensitive Elastomeric Material Moldable to any Shape Housing Wider Sealing Area Can be used with all coolant hose types Temperature-Sensitive Label | <ul style="list-style-type: none"> Will not over- or under-tighten on hose – never needs adjusting Stops leaks even on bad castings Provides better clamp force on hose to stop leaks Consolidate your inventory Easy to install without overheating |
|---|---|

APPLICATION DATA

Clamping hose to fittings is an art. Many things affect how well a connection will maintain integrity and prevent leaking. With proper selection of clamps, fittings and torquing technique, a quality connection can be achieved. With proper maintenance of the connection, leaking will never be a problem.

MINIMIZE LEAKING:

- Torque Level of the Clamp**
 - Normally, the higher the torque level reached without damaging the clamp, hose or the fittings, the less the chance of leaks.
 - A clamp that evenly distributes torque normally attains higher torque without damaging connection. Any localized forces will damage connection at lower torque levels.
 - Rate of torquing influences final torque after rest. A clamp torqued to maximum in 10 seconds will have 70% more rested torque than when torqued to maximum in 3 seconds.
 - Retorquing the clamp after 10 minutes will increase the final rested torque level.
 - Torque level decreases as ambient temperature decreases.
 - Torque level decreases with time due to compression set of the rubber. Periodic retorquing of clamps is advised.
- Condition of Nipples**
 - A beaded nipple offers better sealing retention characteristics.
 - The smoother the finish of the nipple, the less the tendency to leak under the clamp. Irregularities can channel fluid past the clamp. Avoid painting the nipples.
 - Adhesion of hose to fittings will aid leak prevention. Brass and cast iron adhere to common rubber compounds after some time in service.
 - Use of sealants and viscous gels will aid in leak prevention. Be sure the substance is compatible with the hose and coolant. Also, the clamp/nipple configuration should prevent the hose from slipping off the nipple.

CHOOSING A HOSE CLAMP:

There are various clamps on the market. In choosing a clamp, look for one which most evenly distributes the torque around the clamp and maximizes torque level without damage to the hose or fitting.

Types of Clamps

- Band Clamp – Tangential Screw**

- This clamp (figure 1) attains high torque levels and distributes torque evenly. Localized force beneath the housing may cause premature deformation of the nipple. Extrusion of rubber through the slots in the band may occur at high torque levels.

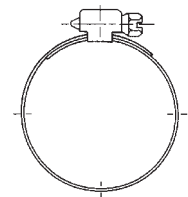


Figure 1

- Banded Clamp Radial Screw**

- This clamp (Figure 2) is best for low torque applications. Force is localized under the screw causing deformation of nipple at medium torque levels.

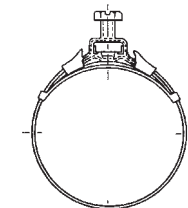


Figure 2

- Two-Wire Clamp**

- This clamp (Figure 3) evenly distributes an extra high torque level. It will not damage the hose unless the cover compounds are tender, such as silicone. It is also inexpensive.

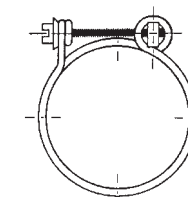


Figure 3