TENNECO

Purchase Order

To:
Aggressive Tooling Inc.

PO number
S108-16002CVS

Original Date	February 8, 2016
Print Date	February 8, 2016
Last Revision Date	

Company
Tenneco Japan Ltd.,
RFS-2016-01-24-gurupras-7308

Invoice to :
Tenneco Japan Ltd. Osaka Plant
2-18 Rinkuoraikita, Izumisano,
Osaka, 598-0048, Japan
Attn: Mr. Yutaka Okamatsu / +81 72 458 2520

This purchase Order is subject to Tenneco Automotive's Standard Purchase Order Terms and Conditions, available on www.tasupplier.com, which are hereby incorporated by reference and made a part of this agreement.
WE REQUIRE ALL SHIPMENTS TO BE DELIVERED BY PURCHASE ORDER / RELEASE DUE DATE. IF THIS CAN NOT BE MET, PLEASE CONTACT THE PLANT REQUISITIONER IMMEDIATELY.

Due Date: To be informed by Guru Prasad

Requested by: Rangan Chakravarthi

Ship to:
Tenneco Japan Ltd. Osaka Plant
2-18 Rinkuoraikita, Izumisano,
Osaka, 598-0048, Japan
Attn: Mr. Guru Prasad /
+81-72-458-2520

Delivery Terms:	*Payment Terms:*	*Currency:*
	Progressive Net Payment	USD

Item	Order Qty.	Unit	Description	Price per Unit	Net Value
Customer Tooling, SCR Combine(new model), Torque and Final Gauge blocks					
010	1	sets	Torque Station, Final Gauge new blocks and installation, Additions to the existing Final Gage (Agg#10398) to combine 1J585-1910-1 10398-21	$25,665.00	$25,665.00
020	1	sets	Torque Station, Final Gauge new blocks and installation, Additions to the existing Final Leak Tester (Agg#10399) to combine 1J585-1910-1 10399-20	$23,425.00	$23,425.00
030	1	sets	Torque Station, Final Gauge new blocks and installation, Budgetary Cost for On Site Technical Support for Kubota 3.8L SCR Tooling (Agg#10398/10399) to Include: 2 Technician for 5 Days 3 Days On-Site- Minimum 10 hour days Flights Hotel Tech Daily Allowance 10398-TS5	$32,000.00	$32,000.00

Total **$81,090.00**

(Reference: 9.628,626JPY)

Note:
* Please send original invoice with signature via physical mail.
This PO does not mean automatic payment to your account.
For statutory purpose, Tenneco Japan requires original invoice with signature for payment.
* Please put in the **PO# S108-16002CVS** on your invoice and on every inquiry about this PO/payment.

* Payment: 100% After Approval, Net 180 days.
* THIS REFERS TO YOUR QUOTE 15602

* **Our DHL Account # is : 963697620**

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luke , 14:11:32, 09/02/2016

FEB. 9. 2016

Authorized by:
H. Kanayama
Hirotatsu Kanayama, Plant Manager

Authorized by:
2/9/2016
Y. Okamatsu
Yutaka Okamatsu, Controller

Authorized by:
Guru Prasad, Quality Manager

608 Industrial Park Dr. Greenville, MI 48838 USA
Phone: (616) 754-1404 / Fax: (616) 754-0665

January 14. 2016 Quote: 15602

* Update Part Tag information

- Tooling Prints
  * DXF Format. BOM
- Part Matrix Tag Update
- Etcher Programming
- PLC Programming
- HMI Programming
  * Allow for part selection
  * Pokeok the fixture set-up
  * Signal to the operator that the proper checks have been completed.
- All required valves. plumbing and wiring.
- Integration with the PLC. HMI. and bar code scanner
  to the central server.
- Electrical Prints
- CMM of details only
- Updated Gage Instructions

Note:
Quote based on the assumption existing tooling is in good working condition

* Note: Tooling to be metric unless it is an Aggressive Tooling Standard Detail.

Cost: $23,425.00

030 Budgetary Cost for On Site Technical Support for Kubota 3.8L SCR
Tooling (Agg# 10398/10399)
To Include:

- 2 Technician for 5 Days
  * 3 Days On-Site - Minimum 10 hour days
- Flights
- Hotel
- Tech Daily Allowance

Cost: $32,000.00

12 Week delivery after receipt of purchase order. 2D drawing(s) and 3D Cad model(s)
* 3D Cad Models to be Parasolid Format if Native Format is UG

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* 3D Cad Models to be Step Format for all other Native File Formats

Please reference this quote number on your purchase order.

Thank you for the opportunity to quote this work. Should you have any questions. please feel free to contact us.

Sincerely.

Justin Moore
justin@aggtool.com

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January 14, 2016

Quote: 15602

Package: 1836

Tenneco Japan LTD
Attn: Guru Prasad
2-18 Rinkuoraikita. Izumisano
Seiko Ogawa. Administrator
Osaka. 598-0048
JP

Guru:

We are pleased to quote as follows:

Tooling Cost to Process the Kubota 3.8L SCR Assembly

010 Additions to the existing Final Gage (Agg# 10398)
to accommodate the following:

New Part
- Kubota# 1J585-1910 / Tenneco# 82351360
- 2D Print: 82351360_51836044_CB0_001_00_ASSEMBLY - FULL ASSEMBLY (COMBINE)_SHEET1 (1.14.16) (QD1836)
- Math File: 82351360_51836044_CD0_001_00_ASSEMBLY - FULL ASSEMBLY (COMBINE) (1.14.16) (QD1836)
- Brief Description: Combine Assembly - Similar to BB Variant - Agg letter A

To Include:

Station 5
- Inlet Decomp Flange Assembly. This assembly will be sub-plate to accommodate for the new geometry with studs.
 * Sub-plate with locators and knobs (Concept similar to Part F)
  ** Flange Assembly
   *** Hardened tool detail to gauge the flange face
   *** Carriage and rail assembly
    **** Lock out assembly
   *** Gas shock assembly
   *** Proximity sensor to ensure the slide has been engaged
  ** Sensor Boss Assembly
   *** Bushing and shaft assembly

AGGRESSIVE TOOLING inc.

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Quote: 15602

   *** Proximity sensor to ensure sensor boss has been engaged
   *** Stanchion mounting details
   *** Hardened and ground tool steel plug
 * Quick disconnect of electrical
 * Proximity sensor for proper setup

Station 1
- Outlet Flange Assembly. This assembly will be sub-plate to accommodate for the new geometry.
 * Replace sub-plate base 10398-05 296J
 * Sub-plate with locators and knobs (Concept similar to Part F)
  ** Flange Assembly
   *** Hardened tool detail to gauge the flange face
   *** Transfer pins to gage the flange hole true position
   *** Proximity sensor to ensure the pins have engaged (2 required)
  ** Sensor Boss Assembly
   *** Bushing and shaft assembly
   *** Proximity sensor to ensure sensor boss has been engaged
   *** Stanchion mounting details
   *** Hardened and ground tool steel plug
 * Quick disconnect of electrical
 * Proximity sensor for proper setup

Station 2
- Urea Injector Assembly. Existing tooling will be utilized for this addition. Common with A/B/L
 * No Tooling required
 * Update Part Tag information

Station 9
- Decomp Outlet Sensor Boss Assembly. Existing tooling will be utilized for this addition. Part A (Lower gauging details)
 * No Tooling required
 * Update Part Tag information

Station 6 / 10
- Datum / Non Datum Bracket Assembly. Existing tooling will be utilized for this addition. Identical Bracket to Part B
 * No Tooling required

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* Update Part Tag information

- Tooling Prints
  * DXF Format, BOM
- Part Matrix Tag Update
- Etcher Programming
- PLC Programming
- HMI Programming
- Electrical Prints
- CMM of details only
- Updated Gage Instructions

Note:
Quote based on the assumption inlet decomp clamp/nut is processed similar to existing where no proximity sensor is required for detection.

Also quote based on the assumption existing tooling is in good working condition

Cost: $25.665.00

020 Additions to the existing Final Leak Tester (Agg# 10399) to accommodate the following:

New Part
- Kubota# 1J585-1910 / Tenneco# 82351360
- 2D Print: 82351360_51836044_CB0_001_00_ASSEMBLY - FULL ASSEMBLY (COMBINE)_SHEET1 (1.14.16) (QD1836)
- Math File: 82351360_51836044_CD0_001_00_ASSEMBLY - FULL ASSEMBLY (COMBINE) (1.14.16) (QD1836)
- Brief Description: Combine Assembly - Similar to BB Variant - Agg letter A

To Include:

Station 5
- Decomp Inlet Flange / Tube Sensor Boss Assembly. This assembly will seal at the flange and sensor face.
  * Sub-plate with locators and knobs (1 required)
    ** Cylinder with mounting details (2 required 1 Flange / 1 Sensor)
      *** Safety switch (Flange)

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    ** Puck style seal (Sensor)
    ** O Ring style seal (Flange)
    ** Quick disconnect of electrical and pneumatics
    ** Binary selection of proper sub-plate setup
    ** Proximity sensor to detect torque gun presence for clamp

Station 1
- Outlet Flange Assembly. This assembly will seal at the flange and sensor face.
  * Sub-plate with locators and knobs (1 required)
    ** Cylinder with mounting details
    ** Puck style seal for the sensor boss
    ** Flat puck seal for the flange
      *** Safety switch
    ** Quick disconnect of electrical and pneumatics
    ** Binary selection of proper sub-plate setup

Station 2
- Urea Injector Assembly. Existing tooling will be utilized for this addition. Common with A/B/F/L/M
  * No Tooling required
  * Update Part Tag information

Station 9
- Decomp Outlet Sensor Boss Assembly. Existing tooling will be utilized for this addition. Part A (Lower sealing details)
  * No Tooling required
  * Update Part Tag information

Station 6
- Datum / Non Datum Bracket Assembly. Existing tooling will be utilized for this addition. Identical Bracket to Part A/F/L
  * No Tooling required
  * Update Part Tag information

Station 10
- Decomp Tube Assembly. Existing tooling will be utilized for this addition. Utilize Part A/B/F/L/M locator. No Clamp required to be detected
  * No Tooling required