

**Equipment Maintenance Management Application**

**Web Based Proactive Maintenance Software**

**V.1 USER MANUAL  
May 1, 2003**





**Equipment Maintenance Management Application**

**Web Based Proactive Maintenance Software**

**Call Michael Holloway  
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with questions**

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## **Welcome to the Equipment Maintenance Management Application (EMMA).**

**The EMMA is perfect for organizing, monitoring, analyzing and scheduling maintenance.**

**The application allows you to:**

- **Manage** Equipment Maintenance, Parts Replacement and Labor Costs.
- **Schedule** Work Orders Daily, Weekly, Monthly, Quarterly or Annually.
- **Track** Fuel Costs and Usage.
- **Determine the Actual Cost** to Operate Each Piece of Equipment.
- **Identify Problem Areas** to Establish a Proactive Maintenance Routine.
- **Web Based** - Accessible From Any Computer Anytime.
- **Multiple Users Accepted** - User ID and Password Protected.
- **Secure Website** Safely Stores Data and Information.

**In order to access the site, your computer must be able to access the internet. Microsoft's Internet Explorer is the preferred system. EMMA will not work with Netscape Navigator.**

**Setup is fast and easy:**

**Step 1 - Web Access:** Make sure your computer can access the internet.

**Step 2 - Complete Enrollment Form :** Your Sales Representative will have you fill out and enrollment form. You will need to provide your e-mail address and a user ID and password. Each can be up to 10 numbers or letters or a combination of the two. Symbols and punctuation marks will not work. Choose the day of the week and time slot for your training. The training will continue at the time and day you choose until you decide you no longer need it.

**Step 3 - Fax Enrollment Form:** Fax the completed form to the EMMA headquarters for processing. The fax number is 972-721-6111

**Step 4 - Start-Up Kit :** Your Sales Representative will provide you with a start-up kit complete with a user manual, a customer number and the website address. You will need your customer number in order to access the application. Your Rep will provide this.

**Step 5 - System Setup:** An administrator at headquarters will set you up and e-mail your confirmation. This process normally takes about a day. Start-up information will be e-mailed to you with the web link. Once this occurs, you will be able to begin using EMMA. Additional users will require new ID's and passwords.

# The Logic of the EMMA

EMMA is a powerful yet simple computer application. It is not considered software because it is not actually loaded on to your computer so it doesn't take up any valued memory. The data is protected and accessible to you from any computer with web access. You are given access to the operating software and your maintenance and service data. The ease of use and flexibility are enormous!

Setting up the initial data will take some time. But once it has been set up, creating work orders, scheduling out future work and even running cost or failure reports will take seconds.

The set up logic is rather simple. You must start with the **SETUP PAGES**. Each option goes in order. From **EQUIPMENT TYPE** on down:

Equipment Type – generic names (Pick-Up, Bull Dozer, Air Compressor, Cooling Tower, etc...), do not use specifics like model numbers or names - that will be done later.

Component Type – of each Equipment Type (engine, hydraulics, motor, electrical system, etc...).

Service Type – service done on each Component Type (engine oil change, motor rebuild, elec. Inspect., etc...)

Parts Setup – all the parts used for a specific Service Type (specifics including part # and costs )

Location – names of the buildings or job sites where the different equipment are located.

My Equipment – the equipment details (make, model, year, VIN, etc...)

# Getting Started

## The Log In Screen

After you have entered the following site: [www.emma.nch.com](http://www.emma.nch.com), type in the following information:

### Practice Industrial Sites

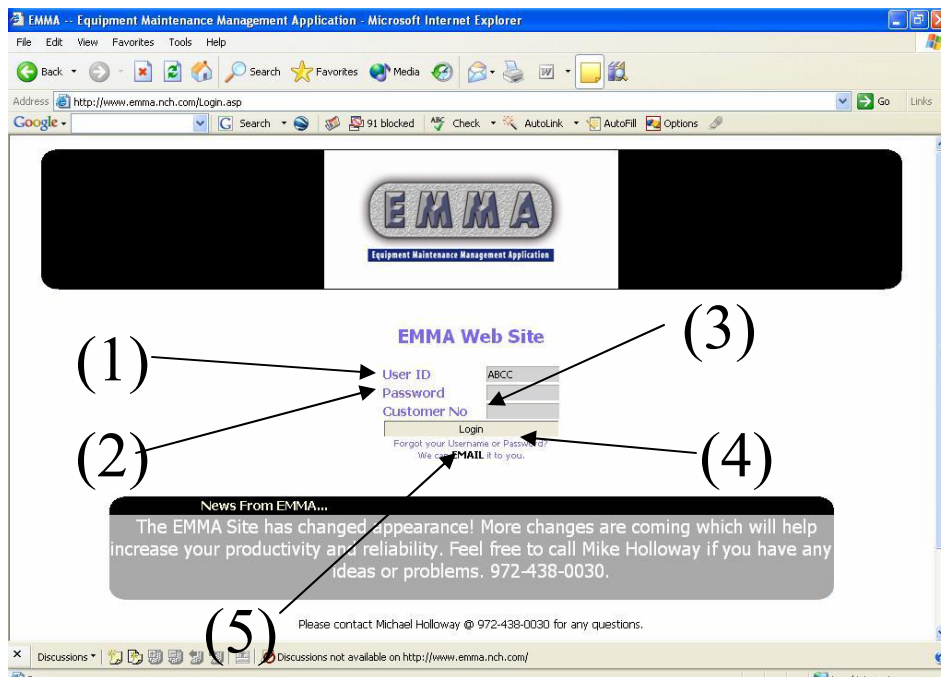
- (1) User ID: ABCI
- (2) Password: abci
- (3) Customer # : a2222222
- (4) Click on the Log-in key.

### Practice Construction Sites

- (1) User ID: ABCC
- (2) Password: abcc
- (3) Customer # : a1111111
- (4) Click on the Log-in key.

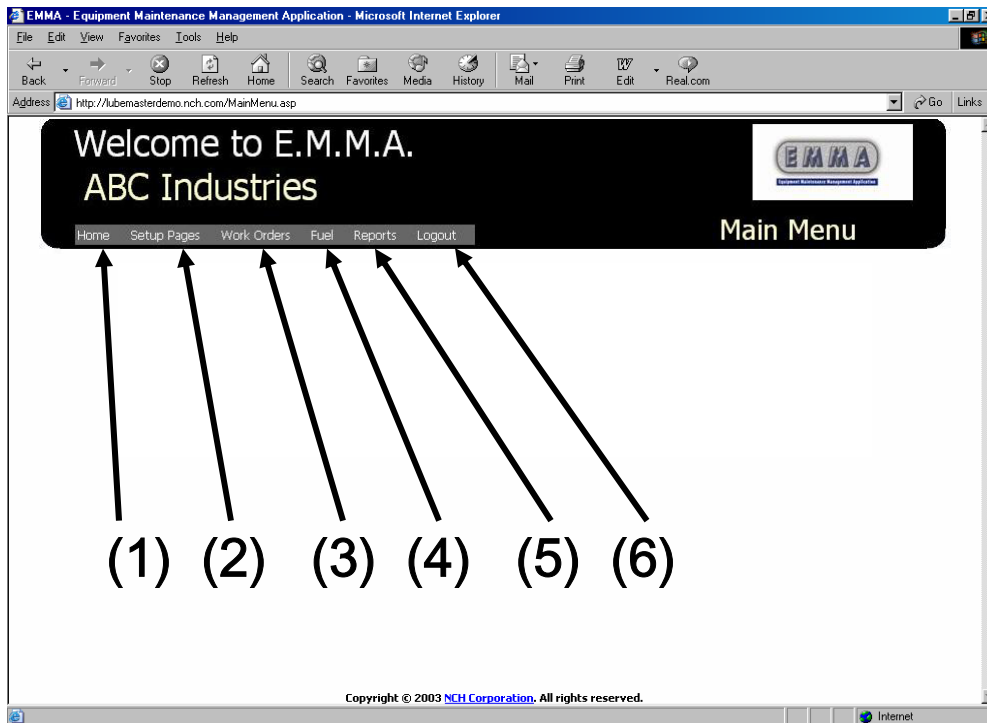
A fictitious company has been set up for you to practice with. You will be given the appropriate information when you receive your start up kit. Choose one of the following practice sites:

If you ever forget your specific information, simply click on the (5) e-mail option. A space will pop up for you to enter your e-mail address. The administrator will send you the information you need to begin. This normally will take no more than 30 minutes.



# Main Menu - Function Keys

Once you have entered the site, you will notice a tool-bar with several options for you to click-on:



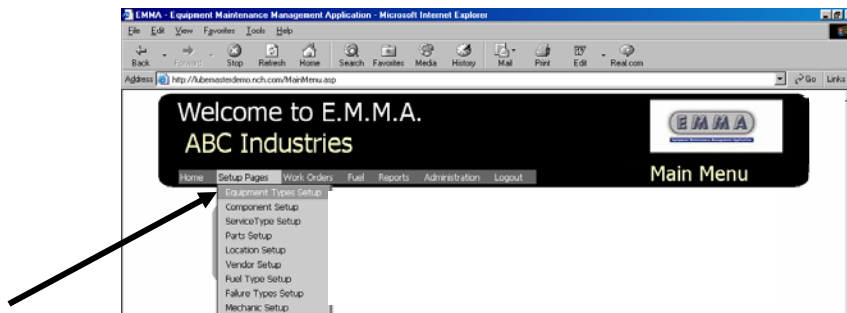
- (1) **HOME** – this allows you to go back to the Log-in screen.
- (2) **SETUP PAGES** – information on equipment types, parts, services, locations, etc are typed in these various fields. This is the basis of all the information needed to generate and close work orders and also run cost reports.
- (3) **WORK ORDERS** – here is where work orders are created, viewed, printed, and closed.
- (4) **FUEL** – equipment filling and fuel delivery data is entered here.
- (5) **REPORTS** – cost to repair, part failure, fueling costs and equipment inventory reports.
- (6) **LOGOUT** – this terminates the session. All your data is still saved.



# 1. EQUIPMENT SETUP

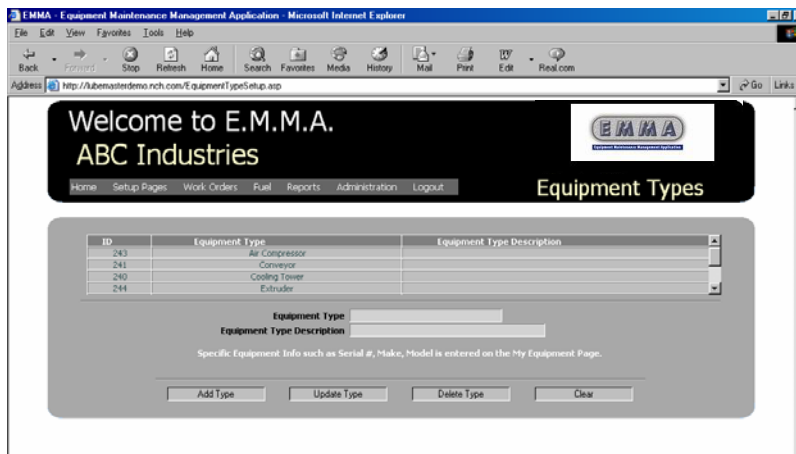
The first step in setting up your system is to enter information that will be used for generating work orders, fuel information and reports.

Move your cursor to the SETUP PAGES option. You will notice that there are several options that appear.



It is important that you begin with the first option – EQUIPMENT TYPES SETUP.

**STEP 1 – Accessing Equipment setup Function: Click on EQUIPMENT TYPES SETUP option and a new screen will appear:**



The EQUIPMENT TYPES SETUP is a function that allows you to enter various types of equipment. An example of an equipment type would be a bull dozer, a mixer or an air compressor. Keep the equipment types as basic and generic as possible.

# Equipment Setup (continued)

Use generic terms when entering the equipment type. Specific information on each equipment type will be added into a different field later.

**STEP 2 – Entering EQUIPMENT TYPES:** The second step to developing the data base is to fill in the EQUIPMENT TYPE Box (also known as an entry field):

ID	Equipment Type	Equipment Type Description
243	Air Compressor	
241	Conveyor	
240	Cooling Tower	
244	Extruder	

Equipment Type:

Equipment Type Description:

Specific Equipment Info such as Serial #, Make, Model is entered on the My Equipment Page.

(1) (2) (3) (4)

You can also add any descriptive information in the EQUIPMENT TYPE DESCRIPTION Box.

**Saving the Data:** Once you have typed in the information, click on: (1) ADD TYPE. This information only has to be entered once. It is now saved in the data base for the rest of the fields to work off of.

**EDITING OPTIONS:** By clicking on a specific Equipment Type in the table, the entry field is filled in. You can then do one of the following functions:

- (2) **UPDATE TYPES:** use this function if you want to make a change to an existing equipment type. Simply change the information and click on UPDATE TYPES.
- (3) **DELETE TYPES:** will completely erase the type you have clicked on from the table.
- (4) **CLEAR:** this will erase an entry you may have made.

# Equipment Component Setup

Each piece of equipment has components. For example, a truck has an engine, a transmission, a windshield and so forth. The components are the various items that different services are going to be done on. It is important that you do not confuse a component with a particular part. For example, an engine is a component of a truck, a piston is a part of the engine.

**STEP 3 – Accessing COMPONENT TYPES:** the next step to developing the data base is to fill in the COMPONENT TYPE entry field. Click on the COMPONENT TYPE option from the SET UP PAGES and a new screen will appear.

You must first select the EQUIPMENT TYPE that the particular component is part of from Step 2.

Component Types

ID	Name	Description	Equipment Type
140	Air Line		Air Compressor
139	Breather		Compressor
137	Control Panel		Compressor
136	Electrical		Compressor
135	Motor		Compressor
134	Pump		Compressor
133	Sump		Compressor

Component Name: \_\_\_\_\_

Component Description: \_\_\_\_\_

(1)

You can also add any descriptive information in the COMPONENT TYPE DESCRIPTION Box.

**Entering Component Types:** After the EQUIPMENT TYPE has been selected, enter the COMPONENT TYPE in the entry field.

**Saving the Data:** Once the information has been entered, click on: (1) ADD COMPONENT. This information only has to be entered once. It is now saved in the data base for the rest of the fields to work off of.

# Service Type Setup

Before a work order can be created, a SERVICE TYPE must be established for each component type of each equipment type. Service for each type of component will require different parts and possibly different service procedures. These specifics will be asked for in the next section.

The name in which you choose for the service should be specific only with regards to the component. For example, if you set up a hydraulic oil change, put in “Hydraulic Oil Change” instead of just “Oil Change”. This will reduce future confusion.

**STEP 4 – Accessing SERVICE TYPES:** the next step to developing the data base is to fill in the SERVICE TYPE entry field from the set up pages. Click on the EQUIPMENT TYPE arrow and click on the EQUIPMENT TYPE you want to set up the service for, then the same for the COMPONENT TYPE arrow. Once you have selected these, click on the GET SERVICES Box:

The screenshot shows the E.M.M.A. Service Type Setup web application. The interface includes a header with "Welcome to E.M.M.A. ABC Industries" and a navigation bar. The main area has dropdowns for "Equipment Type" (set to "Air Compressor") and "Component Type" (set to "Breather"), followed by a "Get Services" button. Below this is a table with columns: ID, Service Name, Service Description, Labor Hours, Labor Rate, and Labor Cost. The table contains one entry with ID 116, Service Name "Replace Elements", and Service Description "Use Wilt Breather, Check water level". At the bottom, there are input fields for "Service Type" and "Service Procedures", and a section for "Est Labor Hours", "Est Hourly Rate", and "Total Cost". Arrows point to specific elements: (1) "Add Type" button, (2) "Update Type" button, (3) "Est Labor Hours" input field, and (4) "Est Hourly Rate" input field.

If there are any services set up in the system, they will appear in the table. If no services have been set up, the table will be empty. Fill in the appropriate entry fields and (1) ADD TYPE or (2) UPDATE TYPE as needed. You also must add the (3) ESTIMATED LABOR HOURS and (4) ESTIMATED LABOR RATE. This will come in handy later when you want to run cost reports. The values can be changed later when you close a work order. Approximations are fine.

# Parts Setup

For every service type, the various PARTS must be entered into the system. This will allow you to specify which parts are required for a given service and also identify parts that wear or break prematurely when you run a failure report.

**STEP 5 – Accessing PARTS TYPES:** Select the EQUIPMENT TYPE, COMPONENT TYPE, and SERVICE TYPE from the options then click on the GET PARTS box

EMMA - Equipment Maintenance Management Application - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Media History Mail Print Edit Real.com

Address <http://lubemasterdemo.nch.com/PartsSetup.asp> Go Links »

Welcome to E.M.M.A.  
ABC Industries

Home Setup Pages Work Orders Fuel Reports Administration Logout

Parts Setup

Equipment Type: Air Compressor Component Type: Breather Service Type: Replace Elements Get Parts

ID	Part Name	Part Description	Part Number	Unit	Cost
170	Wix Airtight	Breather	1765T	EA	20.00

Part Name  
Part Description  
Part Number  
Part Cost  
Unit

Add Part Update Part Clear Delete Part

New entries will not have any parts show up in the table. The GET PARTS box still has to be clicked on in order to proceed.

The PART NAME can be generic. The PART DESCRIPTION should also include the vendor if possible. PART NUMBER should reflect what your company uses. PART COST should reflect the total amount used for that service and be in terms that are familiar to you and your Purchasing Department. The UNITS are typically how the part is received. A “Bearing” may be “Each” where as “Motor Oil” is “Gallons”. You can also use abbreviations such as ea, dz, lb, gl, etc... .

Add as much detailed information as possible in each of the fields. This information will be used later on when work orders are created and cost and failure reports are run.

# Location Setup

Many companies have several buildings that have equipment. Still others have areas that are designated for various activities.

Construction companies typically will have several active sites at any one time. It is important to identify where your different pieces of equipment may be found in order for the maintenance technicians to perform preventative or emergency maintenance.

**STEP 6 – Accessing LOCATION SETUP:** This information will be important for creating work orders and also for running equipment inventory reports

In the **SETUP PAGES**, select **LOCATION SETUP** and fill in the appropriate information. It is important to use building or site designations that are familiar with everyone in the company

ID	Name	Description	Address 1	Address 2	City	State	Zip
16	Main Floor	West End	100 Main St		Irving	TX	75062
17	Bldg 112	East End	100 Main St		Irving	TX	75062
18	Bldg 110	East End	100 Main St		Irving	TX	75062
19	Back Bldg	South End	100 Main St		Irving	TX	75062

Location Name	<input type="text" value="Main Floor"/>
Location Description	<input type="text" value="West End"/>
Address 1	<input type="text" value="100 Main St"/>
Address 2	<input type="text"/>
City	<input type="text" value="Irving"/>
State	<input type="text" value="TX"/>
Zip	<input type="text" value="75062"/>

(1) (2)

If there are any **LOCATIONS** set up in the system, they will appear in the table. If no **LOCATIONS** have been set up, the table will be empty. Fill in the appropriate entry fields and (1) **ADD NEW LOCATION** or (2) **UPDATE LOCATION** as needed.

# Vendor Setup

The **VENDOR SETUP** option allows you to keep track of the various vendors that you do business with.

**STEP 7 – Accessing VENDOR SETUP:** In the **SETUP PAGES**, select **VENDOR SETUP** and fill in the appropriate information.

EMMA- Equipment Maintenance Management Application - Microsoft Internet Explorer

Address: http://lubemasterdemo.nch.com/VendorSetup.asp

Welcome to E.M.M.A.  
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Vendor Setup

ID	Vendor Name	Address	Address 2	City	State	Zip	Phone
165	Certified Labs	1618 East Northgate	5th Floor North Tower	Irving	TX	75062	972.438.0030
166	Precision Bearing	200 Elm St		Dallas	TX	75060	972.721.6111
167	APV	3000 High St		Newark	NJ	02000	800.555.1212

Vendor Name: Certified Labs

Address 1: 1618 East Northgate

Address 2: 5th Floor North Tower

City: Irving

State: TX

Zip Code: 75062

Phone Number (800 555 1212): 972.438.0030

(1) Add Vendor (2) Update Vendor Clear Delete Vendor

If there are **VENDORS** set up in the system, they will appear in the table. If no vendors have been set up, the table will be empty.

Fill in the appropriate entry fields and (1) **ADD VENDOR** or (2) **UPDATE VENDOR** as needed.

# Fuel Types Setup

The **FUEL TYPES SETUP** option allows you to keep track of the various grades of fuel that you may use throughout the year. This information will be important when you run your fuel cost reports.

**STEP 8 – Accessing FUEL TYPES SETUP:** In the **SETUP PAGES**, select **FUEL TYPES SETUP** and fill in the appropriate information.

The screenshot shows the E.M.M.A. (Equipment Maintenance Management Application) web interface in Microsoft Internet Explorer. The browser address bar shows <http://lubemasterdemo.nch.com/FuelTypes.asp>. The page has a dark header with the text "Welcome to E.M.M.A. ABC Industries" and a navigation menu with links: Home, Setup Pages, Work Orders, Fuel, Reports, Administration, and Logout. The "Fuel Types Setup" section is active. It contains a table with the following data:

Fuel Type ID	Fuel Name	Fuel Description
17	Regular	89 Octane
20	Premium Diesel	DIESEL-MATE added

Below the table are input fields for "Fuel Type Name" (containing "Regular") and "Fuel Type Desc" (containing "89 Octane"). At the bottom of this section are four buttons: "Add Fuel Type", "Update Fuel Type", "Clear", and "Delete Fuel Type". The footer of the page states "Copyright © 2003 NCH Corporation. All rights reserved." The Windows taskbar at the bottom shows the Start button, taskbar icons for Outlook, EMMA, and PowerPoint, and a system clock showing 4:55 PM.

If there are **FUEL TYPES** set up in the system, they will appear in the table. If no fuel types have been set up, the table will be empty.

Fill in the appropriate entry fields and (1) **ADD FUEL TYPE** or (2) **UPDATE FUEL TYPE** as needed.



# Failure Type Setup

The **FAILURE TYPE** option allows you to record and track why a particular part, component or piece of equipment has broken. This will be very valuable when you want to determine the longevity of a given part and also when setting up proactive maintenance procedures.

**STEP 9 – Accessing FAILURE TYPES:** In the **SETUP PAGES**, select **FAILURE TYPES** and fill in the appropriate information. A **FAILURE TYPE** can be operator abuse, excessive loads, electrical short, etc... . You will be able to choose the **FAILURE TYPE** when you close a work order. The information will be saved and later available for **FAILURE REPORT** generation.

Failure Type ID	Failure Type Name	Failure Type Description
24	Contamination	Dust & Grit
36	Extreme Loads	-
35	Misapplication	Wrong Fluid Added
23	Operator Abuse	Lack of Training

Failure Type Name:

Failure Type Desc:

(1)  (2)

If there are **FAILURE TYPES** set up in the system, they will appear in the table. If none have been set up, the table will be empty.

Fill in the appropriate entry fields and (1) **ADD FAILURE TYPE** or (2) **UPDATE FAILURE TYPE** as needed.

# Mechanic Setup

The **MECHANIC SETUP** option allows you to assign a mechanic to a particular building, area or site. This function is flexible and is easily updated. This information is essential when assigning work orders.

**STEP 10 – Accessing Mechanic Setup:** In the **SETUP PAGES**, select **MECHANIC SETUP** and fill in the appropriate information. This information will be used when assigning work orders to the various mechanics. You can also choose the location that a particular mechanic is assigned.

Mechanic ID	Mechanic First Name	Mechanic Last Name	Location ID
16	Mr.	Pink	16-Main Floor
17	Mr.	Blue	16-Main Floor
18	Mr.	Brown	16-Main Floor
19	Mr.	Black	17-Bldg 112
20	Mr.	Green	18-Bldg 110
21	Mr.	Orange	19-Back Bldg

Mechanic First Name	Mr.
Mechanic Last Name	Pink
Mechanic Location	Main Floor

(1) (2)

If there are **MECHANICS** set up in the system, they will appear in the table. If no mechanics have been set up, the table will be empty.

Fill in the appropriate entry fields and (1) **ADD MECHANIC** or (2) **UPDATE MECHANIC** as needed.

# Equipment Setup – MY EQUIPMENT

The final step in setting up your data base is to input specific information on your equipment . This information is critical for creating work orders\_and running cost, failure, inventory, fuel usage and fuel fill reports.

**STEP 11 – Accessing EQUIPMENT SETUP:** Select the MY EQUIPMENT from the SETUP PAGES. Select the EQUIPMENT TYPE from the drop down option. Click on the EQUIPMENT TYPE arrow and click on the EQUIPMENT TYPE name in the drop down that you want to set up.

EMMA - Equipment Maintenance Application - Microsoft Internet Explorer

Welcome to E.M.M.A.  
ABC Industries

Home Setup Pages Work Orders Fuel Reports Administration Logout

Equipment Setup

Equipment Type All

ID	Unit Name	Description	Make	Model	Year	VIN / Serial #	Location
263	IR 1	Air Compressor	Ingersol Rand	SSR	1998	2453TRE75	Main Floor
264	IR 2	Air Compressor	Ingersol Rand	SSR	1998	1673TRE66	Main Floor
265	IR 3	Air Compressor	Ingersol Rand	SSR AB	2002	1764T1U874	Main Floor
266	Conv 1	Conveyor	Rapistan	100	1995	17645TRT	Main Floor

Unit Name / Number IR 1

Make Ingersol Rand

Model SSR

Year 1998

VIN / Serial # 2453TRE75

Own/Lease (O/L) Own

New/Used (N/U) New

Location Main Floor

Meter (Hub) 15098

FQA Participant No

Comments

Lead

Add Equipment Update Information Clear Delete Equipment

The UNIT NAME / NUMBER is a designation that you will assign. The MAKE, MODEL, YEAR and VIN / SERIAL # should be information from the equipment manufacturer. You also have a choice of inputting whether you OWN or LEASE and if you purchased it NEW or USED. This information can be very helpful for COST, FAILURE and INVENTORY REPORTS. The LOCATION field is essential for work orders and reports. The METER (HUB) field is the mileage or hours that the piece of equipment has on it. This number will be updated as work orders are closed. The FQA PARTICIPANT option pertains to Fuel Quality Assurance. Ask your Certified Rep for details.

# 2. WORK ORDERS

## Creating Work Orders

The EMMA allows you to create and schedule work for your equipment. After your equipment information has been entered, you are now ready to create work orders.

**STEP 1 – Accessing Create Work Orders: From the WORK ORDERS option, select CREATE WORK ORDERS.**

EMMA - Equipment Maintenance Management Application - Microsoft Internet Explorer

Welcome to E.M.M.A. ABC Industries

Home Setup Pages Work Orders Fuel Reports Administration Logout

Create Work Orders

Equipment Type: All

ID	Equipment Type	Equipment Name	Make	Model	Year	VIN	Location
263	Air Compressor	IR 1	Ingersol Rand	SSR	1998	2453TRE75	Main Floor
264	Air Compressor	IR 2	Ingersol Rand	SSR	1998	1673TRE86	Main Floor
265	Air Compressor	IR 3	Ingersol Rand	SSR AB	2002	1764TYU874	Main Floor
266	Conveyor	Conv 1	Rapastan	100	1995	1764STR	Main Floor
267	Conveyor	Conv 2	Rapastan	100	1995	17654TRR	Main Floor
268	Conveyor	Conv 3	Rapastan	100	1995	167434TRR	Main Floor
269	Conveyor	Conv 4	Rapastan	100	1995	35426TRT	Main Floor
270	Cooling Tower	Main Tower	Burguss	4000 ton	1992	673NCV	Main Floor
271	Extruder	Extr 1	APV	SS45 - EL	1999	2896Tyak	Main Floor

Once you click on CREATE WORK ORDERS, you will notice that a table appears with all the equipment you have entered previously.

EMMA - Equipment Maintenance Management Application - Microsoft Internet Explorer

Welcome to E.M.M.A. ABC Industries

Home Setup Pages Work Orders Fuel Reports Administration Logout

Create Work Orders

Equipment Type: All

ID	Equipment Type	Equipment Name	Make	Model	Year	VIN	Location
263	Air Compressor	IR 1	Ingersol Rand	SSR	1998	2453TRE75	Main Floor
264	Air Compressor	IR 2	Ingersol Rand	SSR	1998	1673TRE86	Main Floor
265	Air Compressor	IR 3	Ingersol Rand	SSR AB	2002	1764TYU874	Main Floor
266	Conveyor	Conv 1	Rapastan	100	1995	1764STR	Main Floor
267	Conveyor	Conv 2	Rapastan	100	1995	17654TRR	Main Floor
268	Conveyor	Conv 3	Rapastan	100	1995	167434TRR	Main Floor
269	Conveyor	Conv 4	Rapastan	100	1995	35426TRT	Main Floor
270	Cooling Tower	Main Tower	Burguss	4000 ton	1992	673NCV	Main Floor
271	Extruder	Extr 1	APV	SS45 - EL	1999	2896Tyak	Main Floor

Select Service Date

Unit ID	Service Date	Requestor ID	Entered Date
263		ABC	3/27/2003

Add Work Order

You can click on a particular piece of equipment in the table or select from the EQUIPMENT TYPE drop down.

# Creating Work Orders (continued)

Once you have selected the particular piece of equipment to service, you will notice that another field appears. This field is for selecting the **SERVICE DATE**. You must select a **SERVICE DATE**.

ID	Equipment Type	Equipment Name	Make	Model	Year	VIN	Location
263	Air Compressor	IR 1	Ingersol Rand	SSR	1998	2453TRE75	Main Floor
264	Air Compressor	IR 2	Ingersol Rand	SSR	1998	1673TRE86	Main Floor
265	Air Compressor	IR 3	Ingersol Rand	SSR AB	2002	1764TYU874	Main Floor
266	Conveyor	Conv 1	Rapastan	100	1995	17645TRT	Main Floor
267	Conveyor	Conv 2	Rapastan	100	1995	17654TRR	Main Floor
268	Conveyor	Conv 3	Rapastan	100	1995	167434TRR	Main Floor
269	Conveyor	Conv 4	Rapastan	100	1995	35426TRT	Main Floor
270	Cooling Tower	Main Tower	Burguss	4000 ton	1992	673NCV	Main Floor
271	Extruder	Extr 1	APV	S545 - EL	1999	2896Tyak	Main Floor

Unit ID	Service Date	Requestor ID	Entered Date
263	3/31/2003	ARCT	3/27/2003

Calendar ...

March 2003

S M T W T F S

26 27 28 29 30 31 1

2 3 4 5 6 7 8

9 10 11 12 13 14 15

16 17 18 19 20 21 22

23 24 25 26 27 28 29

30 31 1 2 3 4 5

You can enter this date by (1) typing in the month/day/ 4digit year or you can click on the (2) calendar option and click on the day in which you would like to schedule work to be done.

Once you have selected the equipment and the service date, click on the (3) ADD WORK ORDER box. A new, work order detail screen will appear.

# Creating Work Orders - Details

The WORK ORDER DETAIL screen allows you to select the COMPONENT TYPE, SERVICE TYPE, PARTS and the MECHANIC that will be assigned to the work order.

You must follow these steps, start by clicking on a specific component type:

- (1) COMPONENT TYPE box that the service will be performed on.
- (2) SERVICE TYPES for that particular COMPONENT TYPE will appear.
- (3) PARTS required for the SERVICE TYPE to be done.
- (4) MECHANIC that will be doing the work. Finally, you can add instructions or comments.
- (5) COMMENTS field. What you type in will appear on the WORK ORDER when you print it off.

EMMA - Equipment Maintenance Management Application - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Media History Mail Print Edit Discuss

Address http://tubemasterdemo.nch.com/CreateWorkOrderDetail.asp?wID=64&EID=263&ETID=243

Welcome To E.M.M.A.  
ABC Industries

Home Setup Pages Work Orders Fuel Reports Administration Logout

Work Order Detail

Work Order ID: 642 Equipment ID: 263 Air Compressor

(1) Components Types  
☐ 140 - Air Line  
☒ 139 - Breather  
☐ 137 - Control Panel  
☐ 136 - Electrical

(2) Service Types  
☒ 116 - Replace Elements

(3) Parts  
☒ 170 - Wix Airright

(4) Mechanics  
☒ 16 - MPINK  
☐ 17 - MBLUE  
☐ 18 - MBROWN  
☐ 19 - MBLACK

(5) Comments: Practice Lock-out / Tag-out

Add to WorkOrder Clear Create Recurring Cancel WorkOrder

Once you have selected this information, you must click on the ADD TO WORK ORDER box. An option of POST REOCCURING or COMPLETE WORK ORDER will appear.

# Creating Work Orders - Reoccurring

Once WORK ORDER DETAIL screen has been completed, you have the option of creating a reoccurring work order or posting as a one time maintenance work order.

You have several options to choose from for reoccurring work orders; DAILY, WEEKLY, MONTHLY, QUARTELY, or ANNUALLY. Click on the option which best suites your needs. Enter a (1) REOCCURRENCE START date and a (2) REOCCURRENCE END date. Please note, only 12 reoccurring dates will be saved in the system. If you require more than 12, you must enter in a new start and end date as needed.

EMMA - Equipment Maintenance Management Application - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Media History Mail Print Edit Discuss

Address http://lubmasterdemo.nch.com/CreateWorkOrderDetail.asp?WID=642&EID=263&ETID=243&DETS=SHOW%WODID=725%WOPID=392

Welcome To E.M.M.A.  
ABC Industries

Home Setup Pages Work Orders Fuel Reports Administration Logout

Work Order Detail

Work Order ID: 642 Equipment ID: 263 Air Compressor

Components Types: 140 - Air Line, 139 - Breather, 137 - Control Panel, 136 - Electrical

Service Types: --

Parts: --

Mechanics: 16 - MPINK, 17 - MBLUE, 18 - MBROWN, 19 - MBLACK

Comments:

Work Order ID	Equip ID	Service / Part Name	Quantity	Rate	Mechanic	Requestor	Service Date
642	263	Replace Elements	1.00	50.00	16	ABCI	3/31/2003

Recurrence Selections: ☐ Daily ☐ Weekly ☐ Monthly ☒ Quarterly ☐ Annually

Recurrence Start: 3/27/03 Recurrence End: 3/1/06

Add to WorkOrder Clear Post Recurring Complete WorkOrder

Click to Post this Recurrence

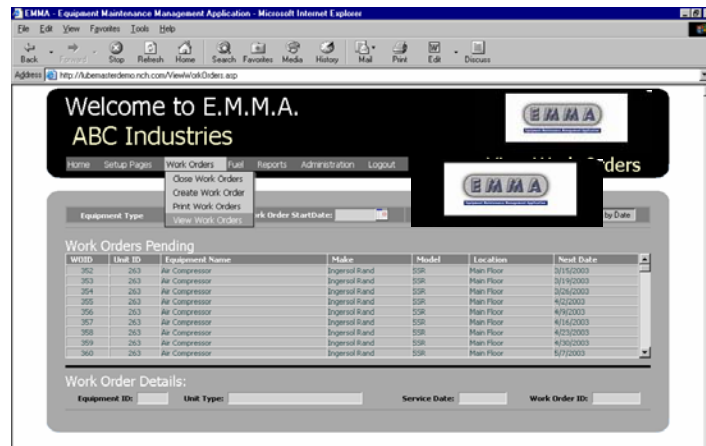
Once you have entered the start and end dates, click on the POST REOCCURRING box.

Once you have clicked on POST REOCCURRING box, you can add more to the work order or post it. To post it, click on the COMPLETE WORK ORDER box. This will save the work order in the system and allow you to view it, cancel it or print it off.

# View Work Orders

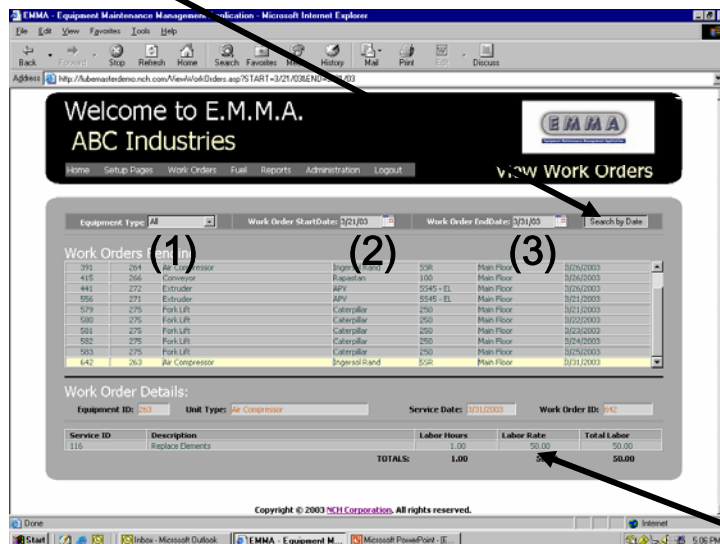
Once WORK ORDER has been created, you have the option of viewing the details with out actually pulling it up.

**STEP 2 – Viewing Work Orders:** In the WORK ORDER option, click on the VIEW WORK ORDERS option.



A table will appear with all of the outstanding work orders.

You can refine your search by selecting the (1) EQUIPMENT TYPE, or (2) START DATE to (3) END DATE. Once the dates are entered, click on the SEARCH BY DATE box



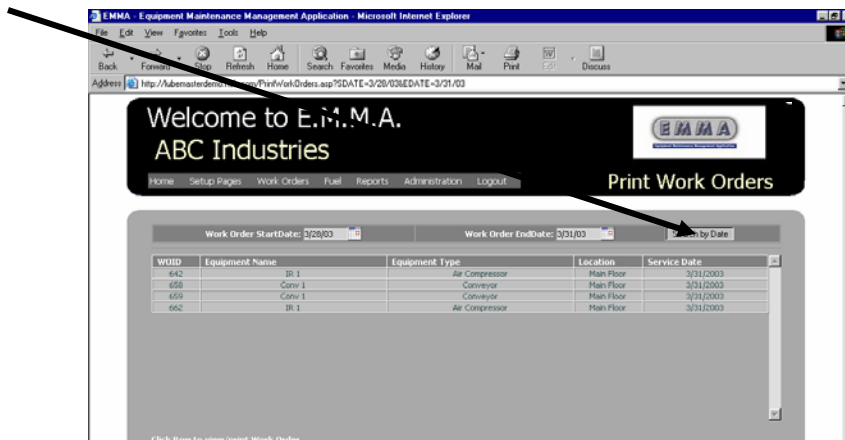
Once you see the work order in the table, click on it and the WORK ORDER DETAILS will appear.



# Printing Work Orders

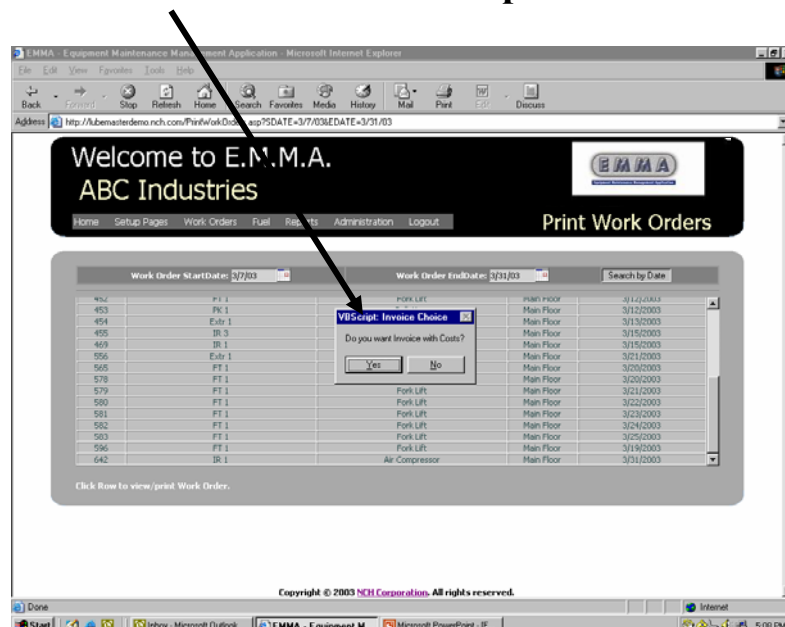
Once WORK ORDER has been created, you have the option of printing the work order

**STEP 3 – Printing Work Orders:** In the WORK ORDER option, click on the PRINT WORK ORDERS option. Once this screen appears, select the date range you would like to be able to select from. Enter the WORK ORDER START DATE and WORK ORDER END DATE range. Click on the SEARCH BY DATE box.



Once the table appears, select the WORK ORDER you want to print.

When you click on the work order, you will be given an option of having the work include the costs such as parts and labor.



# Printing Work Orders - Example

Once you have selected the work order to print and have choosing your invoicing options, the WORK ORDER can be printed.

An example of a work order is below. To print it off, go to your tool bar and click on the PRINT button.

**Work Order Invoice - Microsoft Internet Explorer**

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Media History Mail Print Edit Discuss

Address <http://lubemasterdemo.nch.com/WorkOrderInvoiceWCosts.asp?WID=642>

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**ABC Industries**  
123 Nowhere  
Irving, TX 75062  
972.438.0139

**Work Order 642**

Unit Name/Number: Air Compressor - 263  
Make: Ingersol Rand  
Model: SSR  
Location: 16 - Main Floor  
Mechanic: 16 - Pink, Mr.  
Scheduled Date: 3/31/2003  
Hub / Odometer: 15098

Labor Cost:	\$ 50.00
Parts Cost:	\$ 20.00
Other Cost:	\$ 0.00
Tax Cost:	\$ 0.00
<b>Total Cost:</b>	<b>\$ 70.00</b>

Services / Labor	Procedures / Comments	Quantity	Cost Each	Extended Cost
Breather - Replace Elements	Use Wix Breathers, Check water levels Practice Lock-out / Tag-out	1.00	50.00	50.00

Parts Name	Quantity	Cost Each	Extended Cost
Wix Airright	1.00	20.00	20.00

Note: Please write in any additional work performed. List ALL parts used. Please note an explanation of any work Not performed.  
Please Sign and Date Below.

Mechanic Signature \_\_\_\_\_ Date Completed \_\_\_\_\_

Done Internet

Start Inbox - Microsoft Outlook Work Order Invoice - ... Microsoft PowerPoint - [E... 5:08 PM

The work order will be printed of on printer you have selected as your default printer.

To go back EMMA, simply click on the (1) BACK button located on the tool bar.

# Closing Work Orders

Once a work order has been created, printed off and the work has been completed, it is now ready to be closed out. This is an important function because all of the cost and failure reports will be developed from the information that you enter.

**STEP 4 – Closing Work Orders:** In the **WORK ORDER** option, click on the **CLOSE WORK ORDERS** option.

The screenshot shows the E.M.M.A. web application interface. At the top, there's a navigation bar with links: Home, Setup Pages, Work Orders, Fuel, Reports, Administration, and Logout. The 'Work Orders' link is highlighted. Below this, a dropdown menu is open for 'Work Order ID', showing options: Close Work Orders, Create Work Order, Print Work Orders, and View Work Orders. The 'Close Work Orders' option is selected. The main content area displays a form for closing a work order. It includes fields for Service ID, Description, Labor Hours, Labor Cost, Parts Cost, and Total Cost. There are also fields for Labor Cost Updates, Mechanic ID, Date of Service, and Closed By. A 'Comments / Suggestions' text area is on the right. At the bottom, there are buttons for 'Update Labor Costs', 'Close WorkOrder', and 'Clear Form'.

Once this screen appears, you have 2 options, either way will work.

typing in the (1) **WORK ORDER #**

(2) **SEARCH** using the pull down

This screenshot is similar to the previous one, but the 'Work Order ID' field is highlighted with a red box and labeled with a large (1). The dropdown menu is still open, showing the same options as before.

This screenshot is similar to the previous ones, but the 'SEARCH' button is highlighted with a red box and labeled with a large (2). The dropdown menu is still open, showing the same options as before.

# Closing Work Orders – (continued)

Once you have selected the work order you wish to close, a detail screen will appear. You now have the option of closing the work order or updating the information as it relates to ACTUAL PARTS COST, ACTUAL LABOR HOURS, FAILURE TYPES and the DATE OF SERVICE.

Work Order ID: 642

Service ID	Description	Labor Hours	Labor Cost	Parts Cost	Total Cost
116	Replace Elements	1.00	50.00	20.00	70.00

Unit ID: 263 Unit Name: IR 1 Unit Type: Air Compressor Service Date: 3/31/2003 WOID: 642

**LABOR COST UPDATES**

Service Name: Replace Elements Mechanic ID: Select Mechanic  
Actual Parts Cost: 20.00 Meter:   
Actual Labor Hours: 1.00 Date of Service: 3/27/03  
Actual Labor Cost: 50.00 Closed By: ABCI  
Total Repair Costs: 70.00

**PARTS COST UPDATES**

Service Name	Part ID	Part Name	Part Number	Part Cost	Quantity	Failure Type	Action
Replace Elements	170	Wix Airlight	176ST	20.00	1.00	Select Failure Type Contamination Extreme Loads Misapplication Operator Abuse Over Heating	Update Delete

Update Labor Costs Close WorkOrder Clear Form

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It is important that you update ACTUAL PARTS COST, ACTUAL LABOR HOURS, FAILURE TYPES. All the cost reports will use this information.

You will also notice that (1) FAILURE TYPE has a drop down. Click on the appropriate type and then click on the UPDATE button.

Once this has been done you may close the work order by clicking on the (2) CLOSE WORK ORDER button.

# 3. FUEL

## Creating Fuel Fill Orders

The EMMA allows you to track fuel filling for your equipment. After your equipment information has been entered, you are now ready to enter fuel fill orders.

**STEP 1 – Accessing FUEL FILL ORDERS:** From the FUEL option, select FUEL FILL ORDERS.

The screenshot shows the EMMA web application interface. At the top, there's a navigation bar with links: Home, Setup Pages, Work Orders, Fuel, Reports, Administration, and Logout. The 'Fuel' menu is expanded, showing 'Fuel Fill Orders' and 'Fuel Delivery'. Below the navigation bar, there's a table of equipment with columns: ID, Unit Name, Unit Type, Make, Model, and Location. The table contains three rows of data. Below the table, there's a form to create a new fuel fill order. The form includes fields for Unit Name, Unit Type, Unit Meter, PO Number, Fill Date, Fuel Type (set to Regular Diesel), Gallons Issued, Price Per Gallon, and Fuel Cost. There are buttons for 'Post Fill Order' and 'Clear'.

ID	Unit Name	Unit Type	Make	Model	Location
222	1-ss	Back-Hoe	Cater	600C	Main Yard
223	2-ss	Back-Hoe	Cater	600E	Main Yard
224	3-ss	Back-Hoe	John-Deere	610C	Main Yard
225	4-of	Back-Hoe	Cat	446	Main Yard

Once you click on FUEL FILL ORDERS, you will notice that a table appears with all the equipment you have entered previously.

This screenshot is similar to the previous one, but the 'Equipment Type' dropdown menu is open, showing a list of equipment types: Back-Hoe, Backhoe Loader, Compactor, Dump Truck, Excavator, Fork Lift, Grapple, Grader, Hydraulic Crane, and Log Skidder. The 'Back-Hoe' option is selected. The rest of the interface, including the equipment table and the fuel fill order form, remains the same.

**STEP 2 - Choosing the Equipment that has been filled:** You can click on a particular piece of equipment from the table by clicking on it or select from the EQUIPMENT TYPE drop down.

# Creating Fuel Fill Orders – (continued)

Once you have selected the equipment that has been fueled, enter the information.

**STEP 3– Input and Save FUEL FILL ORDERS Information:** by entering the appropriate information, the cost and amount can be retrieved to build a fuel cost report for all equipment or individual pieces.

The screenshot shows the E.M.M.A. (Equipment Maintenance Management Application) interface. At the top, a banner reads "Welcome to E.M.M.A. ABC Construction" with a navigation menu: Home, Setup Pages, Work Orders, Fuel, Reports, Administration, Logout. The "Fuel Fill Orders" section is active. It features a table of equipment and a form for entering fuel fill details.

ID	Unit Name	Unit Type	Make	Model	Location
222	1-aa	Back Hoe	Case	680C	Main Yard
223	2-aa	Back Hoe	Case	680E	Main Yard
224	3-aa	Back Hoe	John Deere	610C	Main Yard
225	4-of	Back Hoe	Cat	446	Main Yard

Below the table, the "Unit Name" is set to "1-aa". The "Fill Date" is "3/26/03". The "Fuel Type" is "Regular Diesel". The "Gallons Issued" is "30". The "Price Per Gallon" is "1.86". The "Fuel Cost" is calculated. At the bottom, there are "Post Fill Order" and "Clear" buttons. An arrow points to the "Post Fill Order" button.

After the data has been entered, click on the **POST FILL ORDER**, the data is now stored.

# Creating Fuel Delivery

The EMMA allows you to track fuel deliveries. After your vender information has been entered, you are now ready to enter fuel delivery information.

**STEP 1 – Accessing FUEL DELIVERY:** From the **FUEL** option, select **FUEL DELIVERY**.

The screenshot shows the EMMA web application interface. At the top, it says "Welcome to E.M.M.A. ABC Construction" with a navigation bar including "Home", "Setup Pages", "Work Orders", "Fuel", "Reports", "Administration", and "Logout". The "Fuel Delivery" section is active. Below the header is a table of fuel deliveries:

ID	PO Number	Vendor Name	Delivery Date	Gallons	Total Cost	Fuel Type
163	1211	Buddies Cheap Fuel	1/1/2003	2000	1900.00	Regular Diesel
163	1212	Buddies Cheap Fuel	1/15/2003	2000	1960.00	Regular Diesel
162	1213	Advanced Petro	1/8/2003	500	749.50	Premium Diesel
162	1214	Advanced Petro	3/14/2003	11111	11111.00	Regular Diesel

Below the table is a form for adding or updating a delivery. It includes dropdown menus for "Vendor Name" (set to "Certified Labs") and "Fuel Type" (set to "Regular Diesel"). There are input fields for "PO Number", "Delivery Date", "Storage Tank/Truck", "Gallons Delivered", "Price Per Gallon", "Additive Added", and "Biocide Added". At the bottom are buttons for "Add Delivery", "Update Delivery", "Clear", and "Delete Delivery".

Once you click on **FUEL DELIVERY**, you will notice that a table appears with all the vender and fuel deliveries you have entered previously.

This screenshot is identical to the previous one, but with two annotations. A circled number (1) is placed over the "Add Delivery" button, and a circled number (2) is placed over the "Update Delivery" button.

**STEP 2 - Entering and Saving Fuel delivery Data:** You can click on a particular delivery from the table by clicking on it or select from the **VENDER NAME** and **FUEL TYPE** drop downs.

To save new delivery information, click on (1) **ADD DELIVERY**. To change existing delivery information, make the appropriate changes and click on (2) **UPDATE DELIVERY**.

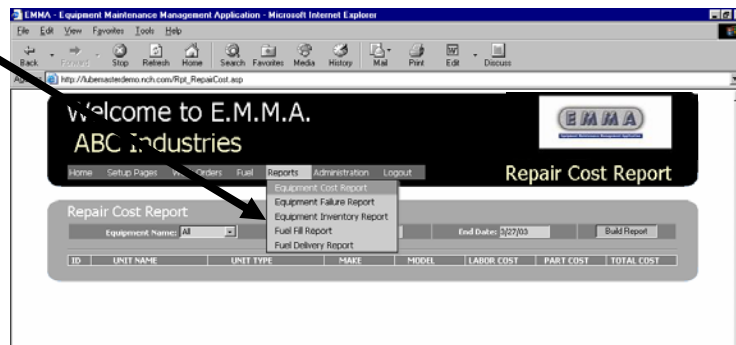
# 4. Reports

## Repair, Failure, Inventory, Fuel Reports

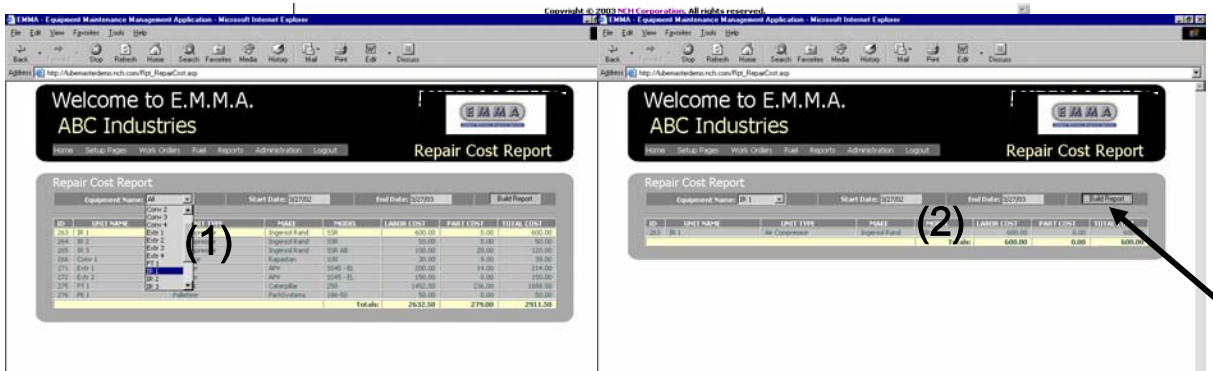
Once you have closed out your work orders, you now have the ability to run various reports - repair cost reports, failure reports, inventory reports and fuel delivery and usage reports. The steps to generate a report are:

- 1) Choose the Report
- 2) Select the Equipment Type and Date Range
- 3) Build Report and Print

**EXAMPLE: STEP 1 Accessing Repair Cost Reports.** In the REPORTS option, click on the EQUIPMENT COST REPORT dropdown.



**STEP 2: Choose the Equipment Type and Date Range.** Once this screen appears, choose the (1) EQUIPMENT and (2) DATE RANGE:

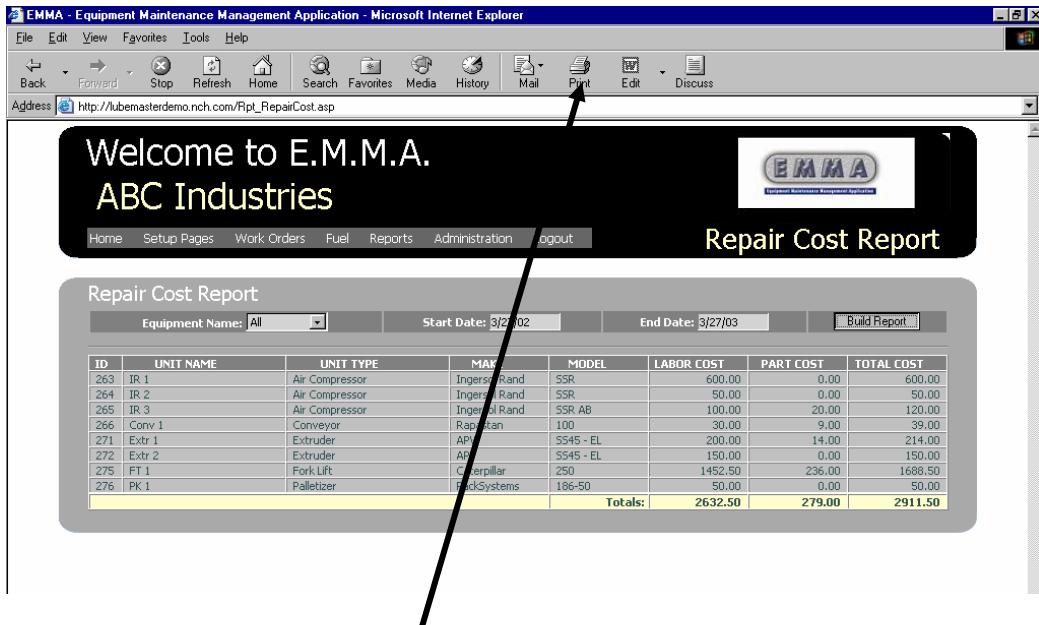


**STEP 3: Build the Report and Print.** Once you have selected all of the equipment or a particular type of equipment and the appropriate date range, click on BUILD REPORT and click on PRINT located on the toolbar.



# Printing Reports

**EXAMPLE: Printing Repair Cost Reports.** Once you have made your selection, and clicked on **BUILD REPORT** and the data is on the screen, you can print it off.



To print a report, simply click on the print option located on your toolbar.

The report option provides an accurate accounting of the work that has been performed and the cost associated to each piece of equipment. The reporting option is only as powerful as the accuracy of the information that is being entered. If a few extra minutes are applied during the data entry steps, the reports option can yield very valuable information.

## 5. Frequently Asked Questions

Question: Why do I have to be so generic when I input different equipment types? I have different pieces of equipment that require different parts and services.

Answer: The logic of the program is considered hierarchical, which means it goes from very general to very specific. The details for each piece of equipment such as name, make model should be added in the MY EQUIPMENT section. Specific components, services and parts can be added into their respective sections without having to worry about the actual piece of equipment it will be used for. Remember, when you create a work order, you choose the component, service and parts for a given piece of equipment.

Question: I sometimes get an error message when I try to input information, or work on work orders. Why does this happen?

Answer: There are 2 possible issues. 1) Make sure you are using the Internet Explorer version that is compatible with your version of Windows. You can update your Internet Explorer version by going to the EMMA Homepage and selecting the appropriate version. 2) Make sure that you have the all the levels of information in the system including location and mechanics. If you do not provided the basic information in the SET-UP option, the program will look for information that isn't there. An error message will occur.

# Frequently Asked Questions

Question: I can only select one mechanic on the work order but sometimes it requires more than one - how can I add more?

Answer: We are looking to have many more functions implemented into the application. As it stands, only one mechanic is assigned but the hours and rate can be adjusted to suit the final cost to fix or maintain a piece of equipment.

Question: I will need to hire someone to work full time for a year to add all the components, services and parts to this data base. Isn't there a simpler way?

Answer: Some customers have entered a large amount of information all at once and then others only input the components, services and parts that are used for preventative and predictive maintenance work. The reactive work that occurs on a daily basis can be quickly added. Once it is added into the application, it is there for future use.

Question: Can the information I put in the procedures section of the services be used for my ISO9000 certification?

Answer: Yes - ISO9000 requires documentation of work procedures. This will satisfy that requirement.

# Frequently Asked Questions

Question: Is my information saved every time I go into another field?

Answer: Yes. If you ever make a mistake in the set-up fields, you can always change it. If you accidentally close-out a work order, you can not go back and re-open it up and make corrections. The application was designed with that in mind.

Question: How often is the information backed up?

Answer: At least once a day. Back up tapes are made in the case of a system failure. Worst case a days worth of information is lost.

Question: What if I cannot get on the internet because of a down line or power outage?

Answer: We can help you. In the event of a down line or power outage, call us (most likely from your cell phone) and tell us what you need. We may be able to input information for you.

Question: How secure is the EMMA site?

Answer: It is secure as possible. In order for someone to hack into the site, they would have to have your User ID, Password, and your Customer Number. It would take work to delete any and all information. If it happened, we can erase the damage and download the previous day's work and information.

## **6. EMMA Minimum Computer Requirements**

The EMMA application utilizes a browser-based thin client configuration running Internet Explorer, therefore most of the processing is performed on a remote Server, rather than end user clients. This configuration allows end users to free-up costly space on their PCs and keep the technical requirements at a minimal. However, a faster processor in your PC will improve performance. Memory often has a significant impact on PC desktop performance, especially if multiple applications are in use simultaneously. Specific sizing recommendations for EMMA are shown below:

### **Software & Recommended PC Requirements**

**Operating System:** Windows 98, Windows NT, Windows 2000, or Windows XP

**Internet Browser:** Internet Explorer v 5.5 or Higher

**CPU:** Pentium 166 or Higher

**RAM (Operating) Memory:** 32 MB

**Monitor (Inches) :** 17 to 21

**Colors:** 256

**Resolution:** 800 X 600

You can update your version of Internet Explorer on-line at the EMMA Log-In site. Simply choose the version of Windows you are running and click on the link. The link will bring you to the Internet Explorer Website where you just follow the commands to update to the latest version of Internet Explorer.

The service is free.