

# PAINTING

A PHOTOSHOP TEXTURING WORKFLOW FOR PAINTING HARD SURFACES

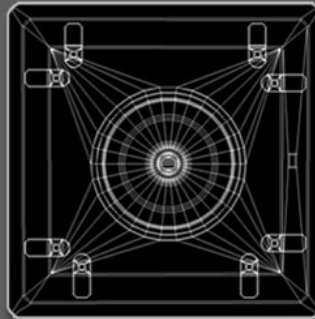
## HARD SURFACE TEXTURES



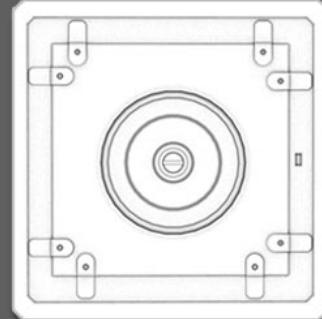
AFTER LAYING OUT A GOOD SET OF UV'S (IN THIS CASE NOTHING BUT A PLANAR MAP)  
 I RENDER AN AMBIENT OCCLUSION PASS INSIDE 3DSMAX. THIS PASS WILL HELP ME 'SEE' WHERE CERTAIN PARTS OF THE MODEL ARE  
 IT ALSO HAS THE BENEFIT OF ADDING THE ILLUSION OF AMBIENT OCCLUSION FOR THE FINAL RENDER  
 RENDERING A UV TEMPLATE IS ALSO A GOOD IDEA TO HELP WITH TEXTURE PLACEMENT



**GEOMETRY**



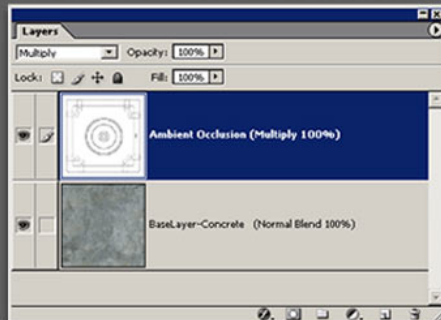
**UV TEMPLATE**



**AMBIENT OCCLUSION (MR)**

**COLOR MAP :**  
 CREATE A NEW IMAGE WITH A BASIC  
 TEXTURE, I'VE USED A RETOUCED PHOTO OF A CONCRETE WALL  
 ANY GENERIC TEXTURE IS GOOD FOR THIS,

BRING IN THE AMBIENT OCCLUSION PASS & SET THE BLEND MODE  
 TO 'MULTIPLY'.  
 DO THE SAME WITH YOUR UV TEMPLATE & SET THAT TO 'SCREEN'

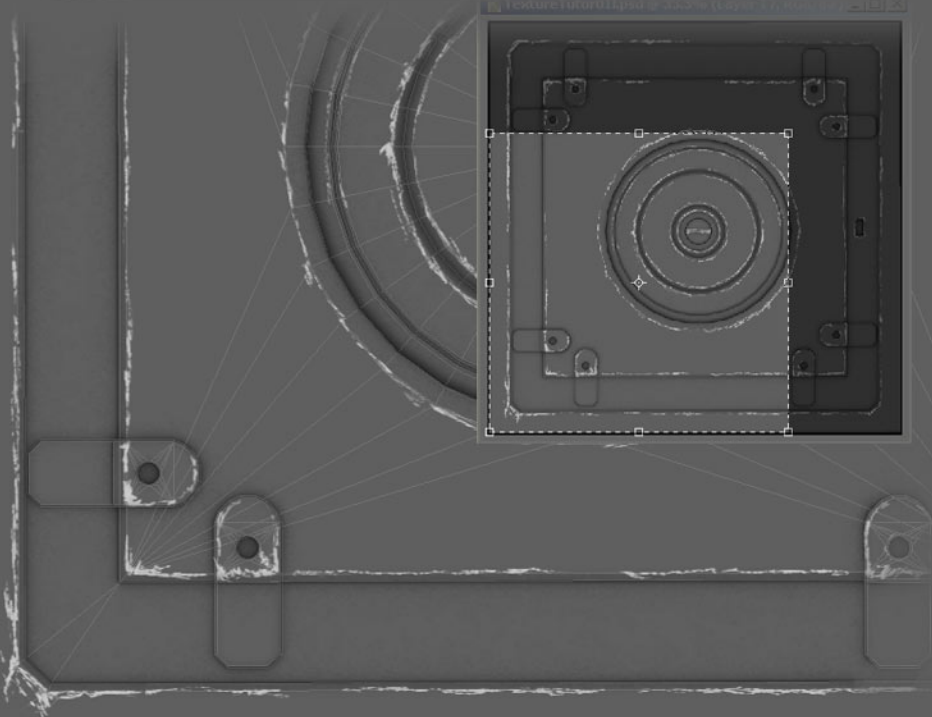


USING A CUSTOM BRUSH WITH A TABLET I PAINT IN THE SCRATCHES, THE OCCCLUSION PASS & TEMPLATE BOTH GIVE A GOOD IDEA OF PARTS THAT ARE RECESSED & WOULD RECEIVE LESS SCRATCHES, AREAS THAT ARE EXPOSED WOULD BE OPEN TO THE ELEMENTS & SHOULD HAVE MORE WEAR.

ANY BRUSH THAT DOESN'T HAVE A REGULAR SMOOTH FLOW IS GOOD FOR THIS TRY TO PLACE THE SCRATCHES IN PLACES THAT WOULD RECEIVE THE MOST WEAR & TEAR.

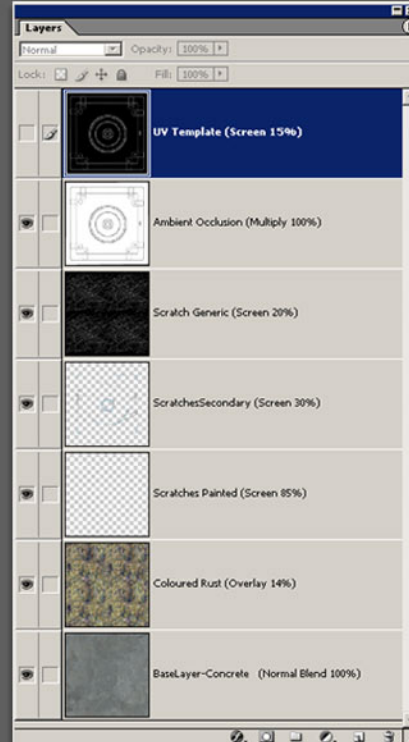


PHOTOSHOP BRUSH



THESE EDGE 'SCRATCHES' WILL BE INVERTED & SET TO MULTIPLY WHEN MAKING THE BUMP MAP, THEY WILL ALSO ACT AS A 'MASK' WHEN USING FLOOD FILLS FOR NOW SET THE LAYER BLEND TO 'SCREEN' & ADJUST THE OPACITY

I USUALLY ADD A SECONDARY LAYER OF EDGE SCRATCHES AT A LIGHTER OPACITY, THIS MAY EVENTUALLY BE DELETED BUT LIKE THE FIRST ONE WILL HELP WITH THE FLOOD FILLS WHILE TRYING TO SIMULATE THE PAINTWORK.



FOR SOME MORE VARIATION ADD A GENERIC TILING PATTERN OF SCRATCHES THIS CAN BE MADE WITH A ONE PIXEL BRUSH, SET THIS LAYER TO 'SCREEN' OR 'LIGHTEN' ....ADJUST OPACITY TO SUIT

## USING 'ALL LAYERS' WITH BUCKET FILLS

psd @ 50% (BluePaint (Normal Blend 93%), RGB/8#)]

View Window Help

Mode: Normal Opacity: 100% Tolerance: 15  Anti-aliased  Contiguous  All Layers

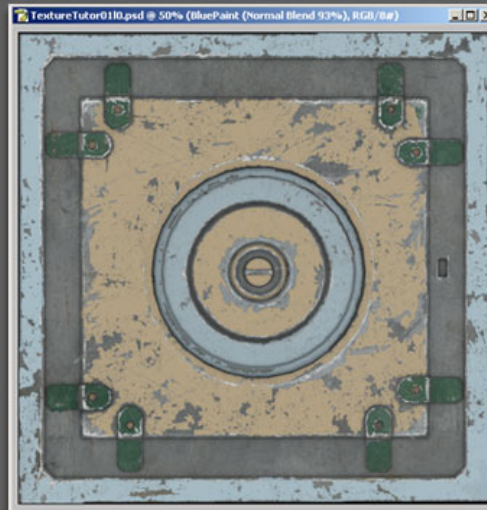
CREATING THE LOOK OF PEELING PAINT IS AS EASY AS CHECKING 'ALL LAYERS' WHEN USING THE 'PAINT BUCKET TOOL' 

THE EFFECT OF USING 'ALL LAYERS' ENSURES ANY FLOOD FILLS WILL BE APPLIED ACCORDING TO HOW MUCH CONTRAST IS IN THE OTHER LAYERS. THIS OPTION BECOMES VISIBLE WHEN THE APPROPRIATE TOOL IS SELECTED

THE 'EDGE SCRATCHES' PAINTED EARLIER WILL STOP ANY FLOOD FILLS FROM BEING APPLIED TO THE EDGES WHILE THE UNDERLYING 'BASE COLOR' LAYER WILL ADD AN OVERALL ROUGHNESS. THE OCCLUSION LAYER HELPS TO KEEP THE COLOR TO SPECIFIC AREAS

\* 'ALL LAYERS' IS AN OPTION WITH SEVERAL OF PHOTOSHOP'S TOOLS

I'VE USED 3 SOLID COLORS TO DEFINE AREAS OF THE GEOMETRY



HERE I'VE ADDED A CHEVRON STYLED PATTERN FILL. THIS PART OF THE MODEL IS SLIGHTLY RECESSED & WOULD RECEIVE LESS WEAR & TEAR SO MORE PAINT SHOULD BE APPLIED. USE A HIGHER TOLERANCE WITH THE 'USE LAYERS' OPTION FOR MORE COVERAGE

IT'S A GOOD IDEA TO CREATE PATTERNS LIKE THIS & SAVE THEM TO A PALLET FOR QUICK ACCESS WHEN DOING FLOOD FILLS. THESE PATTERNS ARE ALSO ACCESSIBLE FROM THE 'PATTERN STAMP TOOL'

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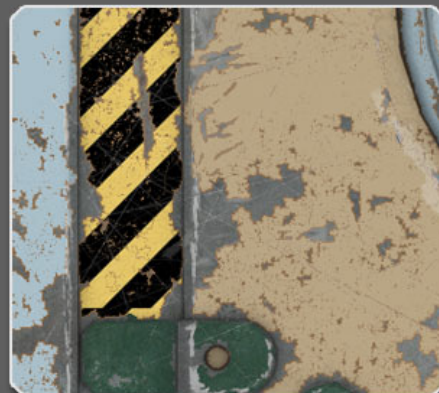


## ADDING AN UNDERCOAT/PRIMER

USUALLY PAINTED SURFACES HAVE SEVERAL LAYERS, A COUPLE TOP COATS OVER A PRIMER OR UNDERCOAT. TO SHOW SOME OF THE UNDERCOAT I MAKE A SELECTION OF ALL THE 'PAINT' LAYERS & EXPAND THAT SELECTION BY 2 OR 3 PIXELS (DEPENDANT ON THE RESOLUTION YOUR WORKING AT). USE THE ERASER TO CLEAR AWAY SOME AREAS.

FLOOD FILL A NEW LAYER WITH YOUR NEW UNDERCOAT. 'USE LAYERS' IS LEFT ON BUT GIVEN A HIGHER TOLERANCE TO GET A DIFFERENT COVERAGE.

\*SELECT MULTIPLE LAYERS BY CNTRL+SHIFT CLICKING EACH 'PAINT' LAYER





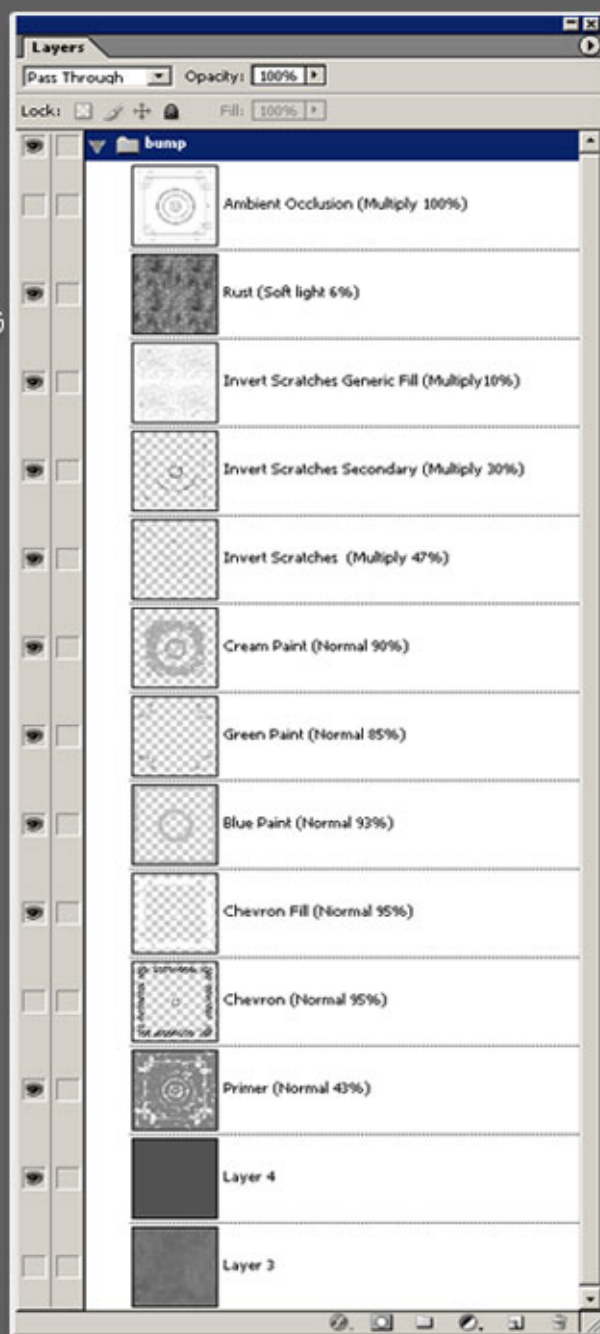
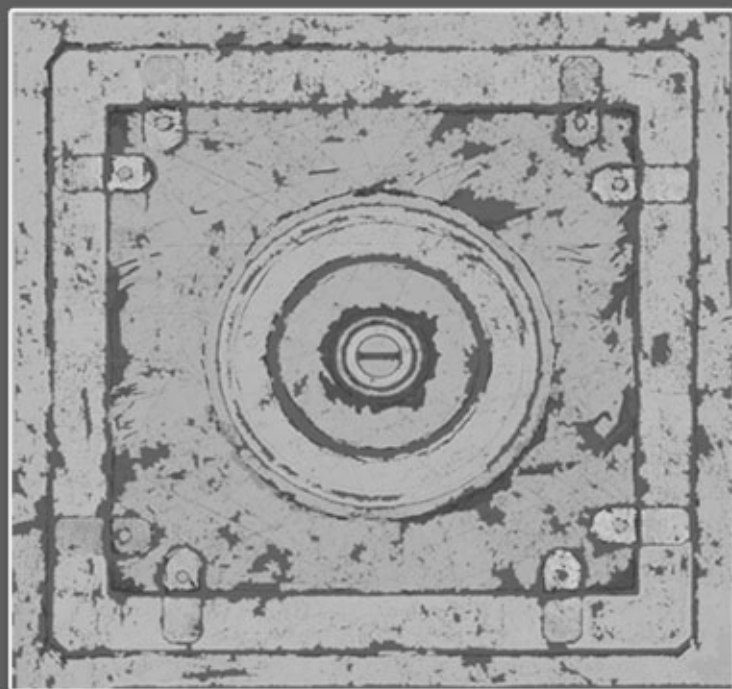
CREATE THE BUMP TEXTURES FROM ALL THE LAYERS USED IN THE COLOR MAP  
 CONVERT ALL LAYERS TO GRAYSCALE WITHOUT MERGING

NOTE HOW THE CHEVRON LAYER HAS BEEN REPLACED WITH A SOLID COLOR FILL  
 THIS IS TO AVOID THE CHEVRON PATTERN APPEARING IN THE BUMP MAP  
 AMBIENT OCCLUSION IS ALSO TURNED OFF AS IT IS NOT NEEDED IN THE BUMP

ALL OF THE 'SCRATCH' LAYERS ARE INVERTED & THE LAYER BLEND IS CHANGED  
 FROM 'SCREEN' TO 'MULTIPLY', THIS ENSURES THE SCRATCHES ARE DARK &  
 WILL LOOK RECESSED ONCE RENDERED  
 THE 'PRIMER' LAYER WILL NEED TO BE SLIGHTLY DARKER THAN THE TOP 'PAINT' LAYERS

THE 'PAINT' LAYERS ARE ALL BROUGHT INTO THE SAME TONAL RANGE, WHICH HAS  
 THE EFFECT OF ALL THE PAINT LAYERS BEING THE SAME THICKNESS  
 THE 'RUST' LAYER IS SET TO A LOWER STRENGTH

THE 'BASE' IS ALSO TONED DOWN TO GIVE A SMOOTHER LOOK  
 ANY 'DECALS' WOULD ALSO NEED TO BE REPLACED WITH A SOLID FILL TO AVOID  
 TEXT APPEARING AS A BUMP MAP  
 'GRIME & STAIN' LAYERS ARE EITHER LOWERED IN OPACITY OR TURNED OFF



# GRUNGE & GRIME

ANOTHER GREAT WAY OF ADDING SOME INTEREST TO YOUR TEXTURES IS TO ADD SOME OVERLAYS OF A GRUNGE TEXTURE...RUSTY PAINT, CONCRETE, FABRIC ETC THE RUSTY YELLOW I'VE USED HERE IS A RETOUCHE PHOTO OF THE SIDE OF A RUBBISH BIN AT THE LOCAL MEATWORKS, YEARS OF DAILY USE HAS CREATED A VERY UNIQUE TEXTURE IN PHOTOSHOP I SET THIS LAYER TO SOFT LIGHT OR OVERLAY. ...OPACITY IS KEPT QUITE LOW TO KEEP THE EFFECT SUBTLE SATURATION IS ALSO LOWERED

I ALSO PAINT IN SOME GRIME ON A NEW LAYER, SET TO MULTIPLY, THESE GRIME LAYERS ARE USUALLY DUPLICATED & SET TO A COLOR BLEND I PAINT THESE WITH A SMALL SOFT BRUSH...SOMETIMES ADDING SOME BLUR TO THE LAYER

AROUND THE BOLTS & IN THE RECESSED PARTS I ADD SOME EARTHY COLORS, TRY & PUT THE GRIME IN LOGICAL PLACES

IF I WERE DOING THIS TEXTURE ON A BUILDING WALL THEN GRAVITY WOULD DICTATE STREAKS & STAINS IN A VERTICAL PATTERN ...MOTION BLUR WOULD BE GOOD FOR CREATING STREAKS & STAINS



AGAIN, PLAY AROUND WITH THE OPACITY & BLEND STYLES OF ALL YOUR LAYERS DO TEST RENDERS WITH THE TEXTURE APPLIED & SEE HOW IT WORKS WHEN APPLIED TO THE MODEL



## THE SMALL DETAILS

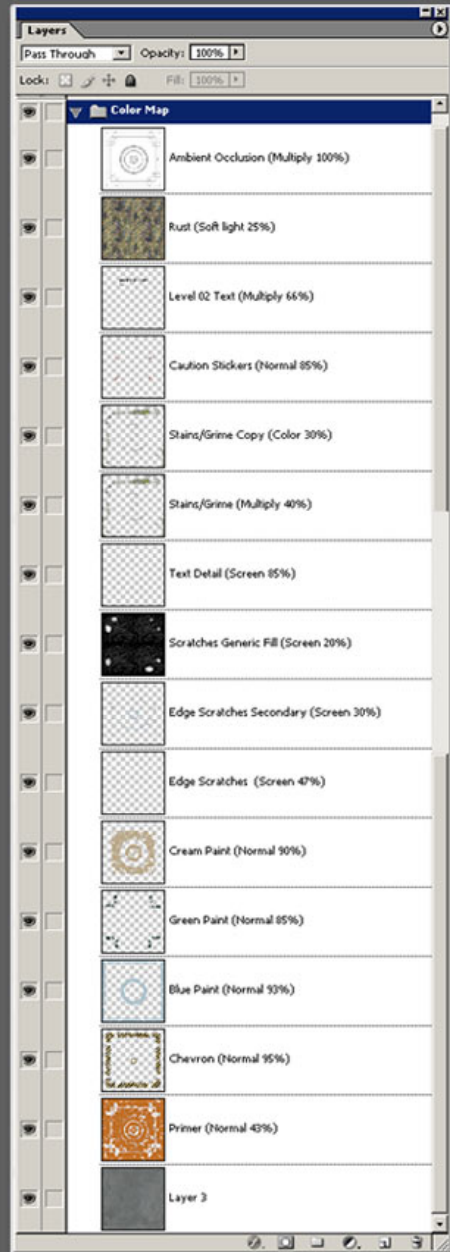
I'VE USED SOME SCANNED OBJECTS FOR SMALLER DETAILS, THE BAR CODE IS FROM A MEMORY STICK BOX, THE CAUTION STICKER FROM A TOY

THE 'LEVEL 02' TEXT WAS ADDED USING THE SAME 'ALL LAYERS' TECHNIQUE AFTER MAKING A SELECTION OF TEXT. I THEN MADE AN INVERTED SELECTION OF THE PAINT LAYERS & DELETED AREAS OF TEXT...THIS IS TO MAKE THE TEXT WEAR IN THE SAME PLACES AS THE PAINT



## THE FINAL COLOR TEXTURE

THE FINAL STEPS INVOLVE APPLYING GLOBAL COLOR ADJUSTMENTS SO EVERYTHING LOOKS COHESIVE & WORKING TOGETHER AS ONE I MIGHT ALSO APPLY SOME SUBTLE SHARPENING TO BRING OUT SOME MORE DETAIL



# SPECULAR & REFLECTION

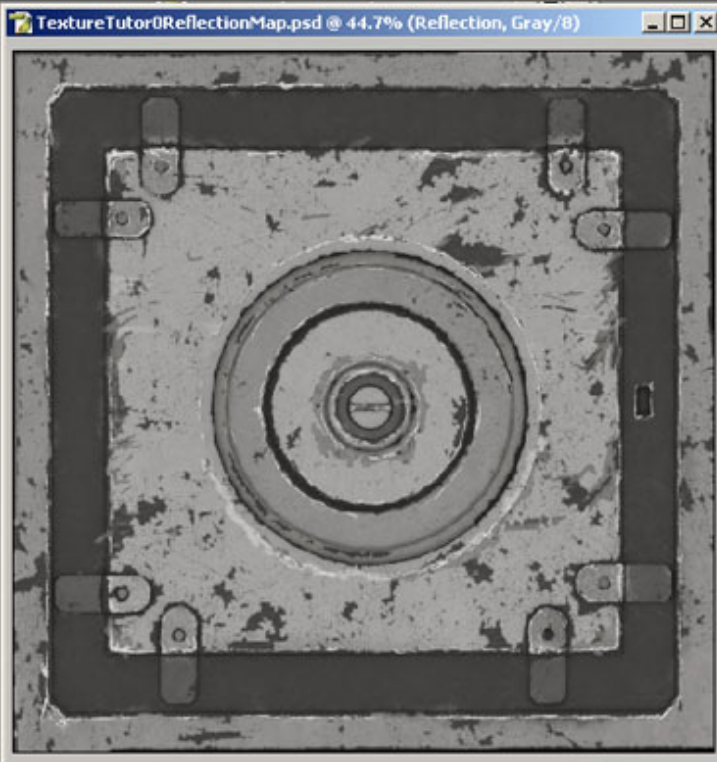
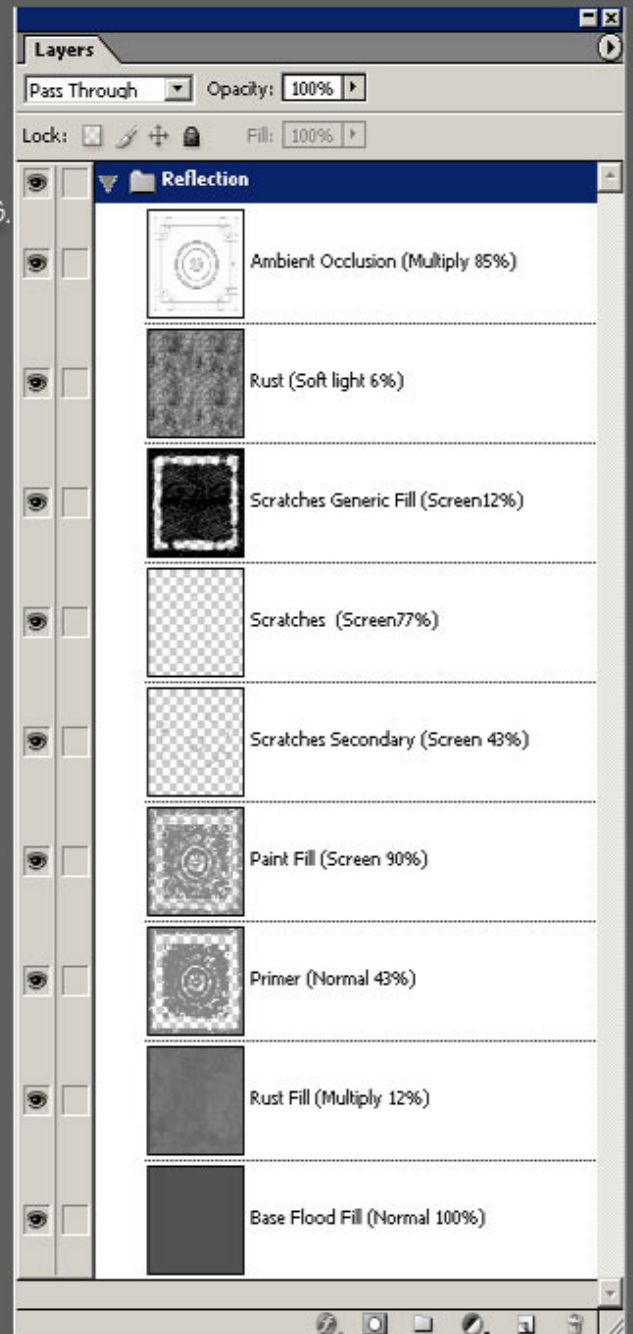
WHILE REFLECTION & SPECULARITY ARE HEAVILY SHADER BASED YOU CAN CONTROL WHICH PARTS ARE REFLECTIVE OR RICH IN SPECULAR DETAIL THE REFLECTION CONTROL MAP IS MADE USING SOME OF THE BUMP LAYERS LIGHTER AREAS ARE MORE REFLECTIVE THAN DARKER AREAS

HERE I'VE ASSUMED THE PAINT TO KEEP A GLOSSY APPEARANCE, POLISHED FROM YEARS OF USE. THE EDGES WOULD BE EASILY PICK UP ROUGH SPECULAR HIGHLIGHTS.

MOST OF THE 'SCRATCH' LAYERS HAVE BEEN INVERTED BACK TO THE SETTINGS USED FOR THE COLOR MAP

THE AREA WHERE THE CHEVRON WAS HAS BEEN MADE MUCH DARKER THIS RECESSED PART OF THE MODEL WOULD PROBABLY COLLECT GRIME & DUST. MAKING IT LESS REFLECTIVE OR ABLE TO SHOW SPECULAR HIGHLIGHTS

THE UNDERLYING BASE COLOR WAS ALSO KEPT DARK TO CONTRAST THE PAINT THE OCCLUSION LAYER IS SWITCHED BACK ON



## - TEXTURE TIPS -

THINK ABOUT HOW YOUR OBJECT WOULD AGE IN REAL LIFE...WILL IT BE IN REGULAR CONTACT WITH HUMANS?  
WILL THAT CONTACT LEAVE TRACES...WEARING AWAY PAINT?...WOULD THERE BE AREAS THAT HAVE WORN MORE HEAVILY THAN OTHERS  
ARE THERE AREAS THAT WOULD BE IN MUCH LESS CONTACT?...WOULD THOSE AREAS BE CLEAN FROM UNDER USE...OR FILLED WITH GRIME &  
THE DETRITUS OF EVERYDAY LIFE?

### RESOLUTION & DETAIL:

- THIS WILL BE DETERMINED BY YOUR FINAL OUTPUT...IF YOU ARE MAKING A GAME TEXTURE IT MAY BE VERY SMALL ,  
IF YOUR WORKING FOR FILM IT COULD POSSIBLY BE VERY LARGE, IT'S A GOOD IDEA TO WORK AS LARGE AS POSSIBLE  
HOW CLOSE WILL YOUR CAMERA BE TO THE SUBJECT?...IS YOU SUBJECT ANIMATED ?..  
.COULD THIS TEXTURE JUST AS EASILY BE MADE WITH PROCEDURALS?
- KEEP TEXTURES IN A POWER OF TWO WHERE EVER POSSIBLE (512X512..1024X1024...ETC..)
- A GOOD TEXTURE IS ONLY A SMALL PART OF THE FINAL PICTURE,GOOD GEOMETRY WITH CORRECT SMOOTHING  
GOOD UV MAPPING & EVEN THE SHADER THE TEXTURE IS APPLIED TO WILL PLAY A ROLE IN DETERMINING THE FINAL IMAGE NOT TO  
MENTION LIGHT & MANY OTHER PARTS

### PHOTO REFERENCE:

- OVERCAST DAYS ARE IDEAL FOR COLLECTING PHOTO REFERENCE AS THERE IS NEVER ANY OBVIOUS LIGHT DIRECTION  
-- WHEREVER POSSIBLE USE A TRIPOD & TIMER
- TAKE PHOTOS AT THE HIGHEST POSSIBLE RESOLUTION YOU CAMERA OFFERS
- TAKE PHOTOS OF EVERYTHING..YOU NEVER KNOW WHEN YOU'LL NEED A SPECIFIC TEXTURE
- & NO,PEOPLE AREN'T LOOKING AT YOU STRANGELY WONDERING WHY YOUR TAKING A PHOTO OF A RUST STAIN ;-)
- AVOID USING EMOSS FILTERS UNLESS YOUR SURE OF THE LIGHT SOURCE IN THE FINAL RENDER



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